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POLLUTION OF THE INTERSTATE WATERS OF THE UPPER MISSISSIPPI RIVER. CONFERENCE HELD AT ST. PAUL, MINNESOTA ON FEBRUARY 8, 1964. VOLUME VI

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CONFERENCE

in the matter of

Pollution of the Interstate Waters of the
UPPER MISSISSIPPI RIVER

VOLUME VI

St. Paul, Minnesota

February 8, 1964

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

Washington, D.C.

VOLUME VI

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(No response.)

MR. SMITH: Mr. Thimsen, will you take over on this, please?

MR. THIMSEN: St. Paul Park:

"A secondary treatment plant was constructed here in 1955 and enlarged in 1963. The plant consists of a primary settling tank, a high-rate trickling filter, secondary settling tank, chlorination contact tank, and separate sludge digestion tank. It is designed to treat sewage and waste at the rate of 0.4 mgd with a 5-day BOD of 200 mg/1 to produce an effluent of 40 mg/1."

MR. SMITH: Is there a representative here of Inver Grove Township?

(No response.)

MR. THIMSEN: "A sewage treatment plant to serve part of the South Grove Development was constructed in 1963. The plant consists of a comminutor, two extended aeration units, a settling tank, a sludge holding tank, and chlorination facilities. The units are designed to provide secondary treatment by the extended aeration modification of the activated sludge process for a sewage flow of about 0.03 mgd with a 5-day BOD of approximately 268 mg/1. The effluent is discharged "to a ditch leading to the Mississippi River."

MR. SMITH: Cottage Grove Township?

MR. THIMSEN: "The plant was constructed in 1962 and is designed to provide secondary treatment. The plant consists of a bar screen, primary settling tank, aeration tank, secondary settling tank, chlorinator, and chlorination contact tank, heated sludge digestion tank and sludge drying beds. It was designed to provide treatment by the activated sludge process for a flow of 0.4 mgd with a 5-day BOD of about 200 mg/1. The units are considered capable of producing an effluent with a 5-day BOD of approximately 20 mg/1."

"Plans for a second stage addition were approved on May 22, 1963, and construction is underway. The changes include a mechanically cleaned bar screen and chamber, primary settling tank, aeration tank, secondary settling tank, chlorination tank, sludge digestion tank and alterations to the control building. The proposed changes will increase the treatment capacity of the plant to 0.80 mgd with a 5-day BOD of about 200 mg/1. The final effluent of the new plant will be approximately 20 mg/1 of 5-day BOD."

MR. SMITH: Hastings?

MR. THIMSEN: "The plant was constructed in 1956 and is designed to provide primary sedimentation and chlorination. The plant consists of a cutting screen, settling tank, chlorination facilities, sludge digestion tank, and sludge beds. It is designed to treat 0.6 mgd of sewage and wastes with a 5-day BOD of 300 mg/l to produce an effluent of approximately 190 mg/l."

MR. SMITH: We would like now to go to the St. Croix River, which comes in at this point. I have statements from both Stillwater and Bayport which I would like to read. The first statement is from Banister Engineering Company, dated February 6, 1964, and it reads:

"This firm, as Consulting Engineers for the City of Stillwater, have been directed by Mr. L. R. Brower, City Clerk, to write this letter as a statement by the City of Stillwater concerning its sewage treatment facilities.

"The City of Stillwater has a primary sewage treatment plant for which construction started in 1959 and was completed in 1961. The project constructed at that time included the sewage treatment plant, two large pumping stations and an interceptor sewer. Part of the sewage collection system in the City of Stillwater consists of separate "sanitary sewers but a substantial amount of combined sewers exist. Many of these were constructed prior to 1870.

"All new sewers being constructed are separate sanitary sewers. Consideration is being given to a gradual separation of the combined and sanitary sewers.

"The City currently has no definite time schedule for providing secondary sewage treatment facilities. However, the present dry weather flows tributary to the sewage plant are substantially below the dry weather flows for which the sewage treatment plant was initially designed."

MR. STEIN: Do you have the requirement that they put in secondary treatment?

MR. SMITH: We have no requirements. There is a policy statement indicating that there will be no new sewage treatment plants on the St. Croix River without providing primary and secondary treatment, and that those providing primary treatment must in the near future provide secondary treatment. There is no time schedule.

MR. STEIN: You don't have a time schedule?

MR. SMITH: No, sir.

MR. STEIN: Is your State agency considering establishing a time schedule to require the secondary treatment or not?

MR. SMITH: It certainly has been discussed. I will have to defer on that question now.

MR. STEIN: I just raised the question. Thank you.

MR. SMITH: I also have a statement from Banister Engineering Company with regard to Bayport, and it reads as follows:

> "This letter constitutes a statement by the Village Council of the Village of Bayport on behalf of the Village of Bayport pertaining to sewage treatment facilities now provided by the Village and proposed to be provided.
>
> "The Village of Bayport currently has in operation a sewage treatment plant of the activated sludge type receiving the sewage and wastes from a sanitary sewer collection system, which includes the sanitary wastes from the State Prison. The plant has been adequate, but because of flows from the State Prison being substantially greater than those originally anticipated the plant has been overloaded for the past three or four years.
>
> "The Village Council recognizes this fact and will receive bids on February 24, 1964, for the construction of improved and enlarged facilities

"having a capacity anticipated to be adequate for future conditions for quite a few years. The plant will be of the contact stabilization type and the degree of treatment anticipated will be a minimum of 90% removal of B.O.D.

"The Council has directed that we, as Village Engineers, make this statement."

MR. STEIN: Mr. Smith, I don't know if you want to answer this, but I think this is beginning to clarify the policy.

Presumably, if any of these people come in for a permit, they would have to provide at least secondary treatment before you would give them a permit. Is that so?

MR. SMITH: This is correct. If there are any new ones, yes.

MR. STEIN: Thank you.

MR. SMITH: I would like now to go to the Vermillion River, and, Mr. Thimsen, would you read the statement for the Hastings State Hospital?

MR. THIMSEN: Yes, sir.

"The Hastings State Hospital sewage treatment plant was constructed in 1937, with additions in 1949. It is a secondary plant and consists of a flow measuring device, bar screen, comminutor, primary clarifier, two aerators, chlorination unit, "heated sludge digester, and sludge beds. The plant is designed to treat sewage and laundry wastes by the activated sludge process. The waste flow is 0.15 mgd and has a 5-day BOD of 340 mg/l. The plant is designed to produce an effluent of approximately 20 mg/l. Discussions have recently been reported concerning a possible connection of the hospital to the Hastings sewer system."

MR. SMITH: I would like next to go to the Cannon River and take Cannon Falls. Would you read that one, Mr. Thimsen?

MR. THIMSEN: "Plans and specifications for the proposed plant were approved by the Commission on October 8, 1963. The plant will be a secondary plant consisting of a primary settling tank, a high-rate trickling filter, a secondary settling tank, a chlorine contact tank and chlorination equipment, sludge digesters, sludge drying beds, and control building. The plant is designed to provide treatment for sewage and waste at the rate of 0.50 mgd, including the malting plant wastes. The raw 5-day BOD of about 360 mg/l will be reduced to about 75 mg/l."

MR. SMITH: Again going down the Mississippi River, I would like to call on Mayor Jelatis of Red Wing.

STATEMENT OF DEMETRIUS G. JELATIS,
MAYOR OF RED WING, MINNESOTA

MAYOR JELATIS: Mr. Chairman and conferees:

My name is Demetrius G. Jelatis. I am Mayor of Red Wing, a downstream community.

I have a copy of our annual operations report of our sewage treatment plant for the last year, 1963, and I can enter this for the record. Also, our plant engineer, Mr. George Williams, is here and can answer any questions regarding a point that may come up.

I would like to preface my statement by asserting, first, that nothing I have said in the past or am saying today should be interpreted as criticism of the motivation or as implying a lack of devotion on the part of our Water Pollution Control Commission. Theirs is a monumental task, hamstrung, as Dr. Hargraves so eloquently described, by a lack of funds and personnel, as well as inadequacies in existing legislation.

What I have to say is intended to indicate, in no uncertain terms, that we believe all that we are currently doing and planning is not enough.

I must apologize in advance for the inevitable duplication in my prepared statement of matters that have already been covered adequately by others.

Last spring the oil pollution of the Mississippi following the ice break-up dramatically called to the attention of the general public a situation that previously was well known only to an informed minority, namely, that the Great Mississippi below St. Paul could equally well be called the "Great Sewer." While the resulting spectacular slaughter of some thousands of migrating waterfowl shocked and disgusted nature lovers all over the country, that deplorable incident represents only a minor insult in comparison to the continuing day-by-day pollution of this stream.

To add to the dismal sum of scatological statistics, I call attention to the documented fact that roughly two-thirds of the human excrement flushed down the toilets of this capital city flows nearly unchanged into the river, which less than fifty miles downstream bathes the banks and nearby beaches of our City of Red Wing, and becomes the water playground of thousands of local and transient users in Lake Pepin and the beautiful Hiawatha Valley area. The essentially untreated two-thirds of the metropolitan area sewage comes from an equivalent population of some two million people.

Let us now turn to my downstream community of Red Wing, with a sewage equivalent population of some twenty thousand. The 1963 annual report of our treatment plant discloses that the average treatment level produced an 87 percent reduction in BOD, treating about 1.5 million gallons per day, and reducing an average daily incoming BOD of 2,645 pounds to an effluent of 334 pounds. This treatment plant was completed just a few years ago at a capital outlay of over $2 million, nearly $200 per capita of Red Wing's population. To make my point, I need two additional pieces of information: river flow and water quality in the vicinity of Red Wing. Lacking exact current figures, I am using for rough estimation data for 1956 from a Minneapolis-St. Paul Sanitary District report. River flow just above Red Wing in the winter months was about 7,000 and in the summer months 15,000 cubic feet per second, so we can take a figure of 10,000 as a fair representation. The same report shows some 3 to 4 ppm of dissolved oxygen and 2 ppm BOD, which may be even worse at the present time. Combining these data with our plant operation figures I come to the conclusion that our effluent adds only 1/200th of one ppm to the BOD and, even more astonishing, that were we to dump all our raw sewage untreated into the river, it would add 1/25th of one ppm or only 2 percent of the BOD burden in the river which

Red Wing receives from upstream.

I do not introduce these figures to pride ourselves on civic virtue. As a matter of record, Red Wing was forced into sewage treatment by action of the Water Pollution Control Commission. But I do take pride in our community for setting a good example by voluntarily adding, at considerable cost, the secondary treatment facilities providing the treatment levels just described, and far exceeding the minimum requirements of the Pollution Control Commission. Further, I feel that this record gives us the right to demand better treatment from our upstream neighbors.

We are painfully aware that other factors besides metropolitan sewage effluents contribute to the degradation of the Mississippi and must also be considered in a total effort of stream improvement. I merely mention some of the obvious problems requiring attention: the cleaning of barges, with obnoxious wastes pumped out into the river; the lack of controls and mandatory monitoring on numerous process water and other effluent lines of manufacturing plants which, in many cases, empty unobserved underwater into the river; the immense tonnages of topsoil and organic matter flushed into the river with every rain because of inadequate water retention resulting from poor soil conservation practices. But even if all of these and similar problems were miraculously solved, the metropolitan sewage effluents at present and even proposed future levels would continue to add an intolerable and morally unjustifiable burden on an irreplaceable natural resource.

It is hard to accept, at a time when we lightly undertake expensive and technically demanding projects of space exploration, the conclusion that we lack the technical and financial resources to clean up the environment which we have heretofore felt free to exploit and pollute at will. We pride ourselves on our technological accomplishments and on our bountiful material goods: automobiles and superhighways, telephones, radio and television, and electrical appliances by the tens and hundreds in even modest homes. We have come a long way towards placidly accepting the supremacy of material and economic over human values. Imaginative poets often see things more clearly and earlier than the rest of us, and I am reminded of a sonnet by the philosopher-poet George Santayana. He says:

"My heart rebels against my generation
Which talks of freedom, yet is slave to riches,
And, toiling 'neath each day's ignoble burden
Boasts of the morrow.

No space for noonday rest or midnight watches,

"No purest joy of breathing under heaven,
Wretched themselves, they heap, to make them happy,
Many possessions. ..."

If we do not, at this late date, make a supreme, concerted effort to undo the damage we have already done, we will all richly deserve Santayana's concluding indictment:

"....
You multiply distresses, and your children
Surely will curse you."

Thank you.

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RED WING WASTETREATMENT PLANT
Annual Operation Report
1963

Average Flow gallons per day	1,544,700
Total flow for year	563,816,000
Average Sludge gallons per day	5,096
Total Sludge for year	1,860,000
Average Cubic Feet per day of Grit and Screenings	12.5
Total Grit and Screenings for year	4,550
Average B.O.D. of Influent P.P.M.	206
Average B.O.D. of Effluent P.P.M.	26
Average Percent Reduction of B.O.D.	87%
Average Pounds of B.O.D. per day Influent	2,645
Average Pounds of B.O.D. per day Effluent	334
Cubic feet of Sludge Gas used for Heat	3,752,680
Cubic feet of Sludge Gas wasted	985,470
Total Gallons Fuel Oil used	3,360

The Impeller and Shaft Sleeve had to be replaced in one pump at the lift station. This was due to pumping grit which was being carried through the grit channel at night when no operator was on duty to run the grit collectors. Time clocks were installed on the collectors to run them at regular intervals.

The city water line going into the Lift Station froze during a long cold spell in January. A tap in the Lift Station is left dripping during cold weather now to keep this from happening again.

MR. STEIN: Thank you, Mayor. That is a very excellent statement covering the gamut, from the depth of the sewers right up to the highest heavenly-like poetry.

Are there any comments or questions?

MR. SMITH: Yes.

MR. STEIN: Mayor, would you wait just a moment, please?

MAYOR JELATIS: Surely.

MR. SMITH: I think too frequently we refer to the BOD removal, and from that deduct that the remainder of the material is equivalent to raw, untreated sewage, as the Mayor states.

Now, most of us know this is not quite correct. We are removing 33 percent, or a third of the biochemical oxygen demand, but we are removing a much higher percentage of the solid material and the floatable material, so that the discharge to the river certainly is in better condition than a two-thirds flow of raw sewage.

Would you agree, Mayor?

MAYOR JELATIS: I would agree to that, but what you are doing, of course, is removing the objectionable floating solids largely.

MR. SMITH: Removing a greater percentage than a third of these materials, and we are removing a third of the total biochemical oxygen demand. I am not defending the removal of only a third.

MAYOR JELATIS: But still the point I made was that for a community to be asked to do a thorough job of sewage treatment when the BOD in the river flowing besides them represents a much larger equivalent population than the raw sewage that they are putting in, is quite a lot to demand of taxpayers.

MR. SMITH: Of course, you were discharging a very small percentage when the sewage was raw too.

MAYOR JELATIS: That is right. That is the point I made.

MR. SMITH: The Chairman commented on the tolerance of the Commission. We might point out that the first sewers were constructed in Red Wing 85 years before the sewage treatment plant was constructed.

MAYOR JELATIS: I am not bragging about our past performance.

(Laughter.)

MR. STEIN: That is not tolerance; that is forbearance.

All right. Are there any other comments or questions?

You know, there may be a couple of places where

I think we might be able at least to narrow the gap. I recognize your position, as everyone here does. It all depends on your point of view, which side you are born on. The downstream community has a little different view of this than some of the others who have talked, but when you talk in terms of technological improvement, as far as I have been able to ascertain here, we don't have the particularly exotic wastes that are not reasonably amenable to treatment.

I thoroughly agree with Dr. Hargraves that research must be done, and we have to do research on particular plants, but I think the question here is organization and money, rather than dealing with a waste that no one knows how to get rid of.

The other point I want to mention is a very, very hard one. I know what you are talking about when you talk about all of these pipes. Again, we recognize the resources, as has been graphically put out by Dr. Hargraves. The hard job in waste treatment is finding every one of these outlets, and this job can only be undertaken by painstaking survey and going up and down the banks of the stream, and trying to find the temperature differences and where these submerged outlets are.

Even in a city as well mapped as Chicago, when we went on our diversion case, of which Mr. Poston was in charge, when we went on that main sanitary canal going down right through the heart of Chicago, I think we found about 1,200 outlets which were not listed.

Again, I don't think that you can expect people who have the day-to-day operations of a busy State program, running around on fish kills, oil spills, trying to review plans and specifications, to get the crew out there that has the time, the equipment, the inclination, the energy and the money to locate all these spots. Again, this is an area where, if you have any doubts about them, I am sure it will be clarified if you do that study.

MAYOR JELATIS: I thoroughly understand that position and, as I mentioned, I understand that they do not have the resources and the personnel.

This is perhaps one of the most urgently needed things that has to be done in this area.

MR. STEIN: Thank you, Mayor.

MR. WILSON: Mr. Chairman, I know I can assure everybody that the Commission and all concerned have very much appreciated Mayor Jelatis' tolerant and fair-minded attitude throughout all the negotiations that have been had with the Village of Red Wing, and his own leadership in producing the admirable results that they have achieved in their sewage treatment plant.

However, I just wanted to ask the Mayor the same question that I asked Mr. Krauss a while ago, and that is if he remembers the Mississippi River before the Twin Cities plant was constructed?

MAYOR JELATIS: No. I have to admit I am just a foreigner. I just came into Red Wing in 1945.

MR. WILSON: But you would agree with Mr. Krauss, I assume, that the conditions were very much improved after that plant and the South St. Paul plant were constructed, over what they had been when the raw sewage was going down the stream before?

MAYOR JELATIS: Yes. Without any question, from what I have been told by others, I would agree with that.

DR. HARGRAVES: I think I would just like to say, I wish there were more mayors like Mayor Jelatis, and I think you ought to appreciate he is a graduate of MIT. He understands whereof he speaks in many of these problems, and we have had many conversations together, as we have with other people around the State.

Perhaps we should have more good mayors living downstream who are vocal.

MR. STEIN: Really, Mayor, one thing these people have done in this profession, as when you talked about your scatological statistics, they have done a tremendous job --

almost better than the people we call undertakers or funeral directors -- in developing euphemisms and antiseptic terminology to describe their work.

(Laughter.)

MAYOR JELATIS: Inoffensive language for an offensive problem.

MR. STEIN: Thank you.

MR. SMITH: The next community downstream, and the last one in this order, is Lake City. Mr. Thimsen, will you present that?

MR. THIMSEN: "The sewage plant was constructed in 1934 and provides primary treatment. The plant consists of a primary settling tank, chlorination facilities, sludge digestion tank and sludge beds. It was designed to treat a sewage and waste flow of 0.24 mgd with a 5-day BOD of about 260 mg/1 to produce an effluent of about 175 mg/1.

"Plans for alterations were approved on March 21, 1961. This project consisted of replacement of the pumps at the main lift station, modification of the sludge digester, and installation of a chlorinator. The proposed improvements will not increase the capacity of the plant but will help to avoid by-passing of sewage, permit better "operation, and provide effective disinfection of the plant effluent."

MR. SMITH: I have two more letters from municipalities. The next one is from the City of Bloomington, which does not have a direct discharge to the river, but discharges through the Minneapolis system to the Minneapolis-St. Paul Sanitary District.

This letter is addressed to the Commission, dated February 5, 1964, and reads:

"The following is presented as a position statement which is requested be entered in the record of the January 7, 1964 Conference, under the authority of the Water Pollution Control Act.

"The City of Bloomington, with more than 12 miles of the Minnesota River as its southern border, is vitally concerned with pollution control on the Lower Minnesota River and the Mississippi River, and favors the establishment of suitable and reasonable standards for river conditions and effluent quality.

"Quality standards should regulate the use of the Rivers rather than establishing outright prohibition of 'major discharges' of treated or untreated wastes in certain sections of the Rivers. Such a prohibition tacitly approves 'minor' untreated wastes (such as combined storm-sanitary sewers and "industrial wastes) which can and should be treated. It also presupposes that it is better to collect all of the metropolitan sewage at one point for concentrated discharge into the Mississippi River.

"Advances in sewage treatment have been significant. Properly treated effluent would add flow to the Minnesota River and would reduce the pollution load below the major plant. Utilization of the rivers as conduits for conveying highly treated wastes will save millions of dollars in interceptor costs, and unless a much lower degree of treatment is intended at the lower plant, there would be no major offsetting treatment savings."

MR. STEIN: Thank you. Do you want to go on?

MR. SMITH: I also have a resolution from the Village Council of Minnetonka Village. This is Resolution No. 587, and it reads:

"WHEREAS, a thorough and comprehensive study has been made relative to the expansion of Sewage Works in the Minneapolis-St. Paul Metropolitan Area, and

"WHEREAS, such study indicates the feasibility of a major Sewage Treatment Plant on the Minnesota River - and shows that the cost of interceptor sewers and pumping stations to convey from the "proposed plant site to the existing Minneapolis-St. Paul Sanitary District Sewage Plant exceeds 12 million dollars with stage construction not feasible, and

"WHEREAS, a large portion of the Southwest Region drains naturally to the Minnesota River, and

"WHEREAS, no engineering study has concluded that all sewage from this region should be 'funneled' through Minneapolis, and

"WHEREAS, serious sewerage problems exist in the Southwest Region with no economically feasible permanent solution except discharge to the Minnesota River, and

"WHEREAS, properly spaced treatment plants with adequately treated effluent could add flow to the river, allow time for recovery, and not concentrate sewage effluent at one point, and

"WHEREAS, several sewage treatment plants have recently been approved on the lower Minnesota River by the Minnesota Pollution Control Commission, and

"WHEREAS, absolute prohibition of additional treatment plants on the lower Minnesota River 'regardless of the degree of treatment or the capabilities of the receiving stream' is being considered by the State Pollution Control Commission;

"NOW THEREFORE, BE IT RESOLVED BY THE VILLAGE COUNCIL OF THE VILLAGE OF MINNETONKA:

"That the Water Pollution Control Commission be requested that suitable and reasonable standards be adopted for river conditions and effluent quality from treatment plants located or to be located along the banks of the Minnesota River.

"Adopted by the Council this 27th day of January, 1964.

/s/ Al W. Illies, Mayor."

MR. STEIN: Thank you.

MR. SMITH: Unless there are other municipalities or political subdivisions present, we will now take in order the industrial waste discharges.

We would like to start then, Mr. Chairman, with the Rum River, and we have, in order the Cornelius Manufacturing Company of Anoka.

Is there anyone here representing that company?

(No response.)

MR. SMITH: If not, Mr. Johannes, would you describe the facility?

STATEMENT OF CLARENCE A. JOHANNES, PUBLIC HEALTH ENGINEER, MINNESOTA DEPARTMENT OF HEALTH

MR. JOHANNES: Yes, sir.

"The Cornelius Manufacturing Company is located on the right bank of the Rum River in Anoka. The company is engaged in the manufacture of soda fountain dispensing equipment. Plant operations include plastic molding, painting, and metal plating. Wastes consist of cooling water, paint scrubber water, and plating rinse water, all of which are discharged directly to the Rum River without treatment. Secondary containment structures have not been provided to guard against accidental losses of chemicals from the plating tanks. Sanitary sewage is reportedly discharged to the municipal sanitary sewer."

MR. SMITH: Would you also read the Federal Cartridge Corporation description?

MR. JOHANNES: "This plant is located in Anoka a short distance east of the Rum River. The company manufactures smokeless powder and ammunition "for small arms. It is reported that sanitary sewage and plating rinse water are discharged to the municipal sanitary sewer, but a filtrate from the manufacture of nitrocellulose is discharged to a storm sewer which drains into the Rum River. Relatively high concentrations of copper and zinc have been found in samples collected of the flow from the sewer outfall at the Rum River. Secondary containment facilities to guard against losses of the plating solutions have not been provided."

MR. SMITH: From this point we would start down the Mississippi River, and the first point of discharge would be the Minneapolis water treatment plant at Fridley.

Is anyone here representing the Water Treatment Department?

(No response.)

MR. SMITH: Mr. Johannes?

MR. JOHANNES: "The plant is located in Fridley a short distance upstream from the Camden bridge. It produces potable water for the City of Minneapolis and several suburbs. Raw water is drawn from the Mississippi River. The plant has a reported capacity of 158 mgd of finished water. Wastes consist of sand filter backwash water and a "lime slurry from the softening process. The filter backwash water is discharged to the Mississippi River without treatment, while the lime slurry is pumped to a nearby clarification basin. The supernatant overflows to the river at a reported rate of about 1.5 mgd."

MR. SMITH: Is there a representative of the Northern States Power Company present?

(No response.)

MR. SMITH: I have copies, Mr. Chairman, of their statement. May I have this incorporated in the record?

MR. STEIN: Without objection, that will be done.

(The statement of the Northern States Power Company is as follows:

Northern States Power Company is a public utility operating in the States of Minnesota, North Dakota, South Dakota, and through a subsidiary in Wisconsin, supplying electricity in 637 communities having a total population of over 2-½ million people. Its service area includes the metropolitan area of St. Paul-Minneapolis suburbs.

Our company is vitally concerned with the use of water in the portion of the Mississippi and its tributaries under consideration at this conference. Of the total generating capability of our company, 1,352,300 kilowatts, or about 75%, is installed at our Riverside, Black Dog, High Bridge, Wilmarth, Red Wing, Southeast, and Island Steam-Electric Plants, all of which are located on the Mississippi and Minnesota Rivers. Our company owns two other sites on which we contemplate future construction of large steam-electric plants as necessary to meet anticipated increased use of electricity and population growth in our service area. One, called the R. F. Pack Plant site, is at Newport on the east bank of the Mississippi River. The other site, called Prairie Island, is located on the west bank upstream from the Red Wing lock and dam.

Our generation of electricity requires large quantities of river water for cooling purposes. Water is drawn from the river, passed through condensers, and returned to the river basically unchanged, except for a rise in temperature. This cooling water then mixes with the mainstream of the river and the heat is dissipated to the air.

Our company participated in the extensive public hearings held by the Minnesota State Water Pollution Control Commission concerning the adoption of classifications and standards for the Mississippi River and tributaries from the mouth of the Rum River to Lock and Dam No. 2 near Hastings. As adopted by the Commission on March 28, 1963, provisions in these classifications and standards regulate the discharge of circulating water from our plants into this portion of the river.

As a result of such hearings and Commission action, and in order to compile more definite information on the effect of the discharge of circulating water from our plants upon river temperature, our company, in cooperation with the Commission staff, is conducting a series of river temperature surveys. The Mississippi River in the vicinity of our Riverside Steam-Electric Plant at Minneapolis was chosen as the site for these surveys because there is a new generating unit presently under construction at that plant. This construction affords an opportunity to obtain data on river temperatures prior to and subsequent to the operation of the new unit. In connection with such construction, we filed last summer with the Commission an application for a permit to discharge cooling water into the river from this new unit at Riverside. We have also supplied data and consulted with the Commission staff in order to assure that this construction meets the standards established by the Commission.

In connection with the construction of contemplated future generating plants on the two sites previously described, we have consulted and will continue to consult with the Commission staff concerning our water requirements and uses and for the purpose of evaluating the design of the plants. It is our belief that such discussions and cooperation at the early design stages will result in our construction and operation of electric generating plants which will use water in accordance with established standards of the Commission. This will result in a reasonable and compatible balance with other long established and legitimate uses of the river, such as water supply, sewage treatment, recreation, and various industrial uses.

Northern States Power Company is also cooperating with the U. S. Public Health Service in its survey of the Mississippi River by supplying information concerning the company's operations and facilities.

Respectfully submitted,
NORTHERN STATES POWER COMPANY
/s/ By A. R. Renquist
Dated February 5, 1964 Attorney)

* * *

MR. STEIN: I see you have several more to go.

MR. SMITH: Yes, Mr. Chairman.

MR. STEIN: We will take a ten-minute recess and we will start at four promptly.

(Whereupon a recess was had.)

MR. STEIN: May we reconvene?

DR. HARGRAVES: We won't be here all night. Dr. Barr is beginning to worry, and so am I; so are many others. However, since Minnesota has worked long and diligently in order to get all of this material together and paint the picture as we feel it is, and since practically all of this is in Minnesota, we have wanted to get this material in the record.

It is obvious that enough, I think, has been given, so that you can see some communities and some industries are doing a good job, and others are not yet doing it. Those that you want to know more about and that the conferees can know more about will be in the transcript, because we have so arranged it; but those who have come here and have been patiently waiting in order to be heard, we will go through and see those people who are here and hear their comments. Then we will try to close it by turning it back to the Chairman from the Minnesota delegation, and we will complete this in as short a time as possible, because we have been assured that these things will all be in the record. So, Mr. Smith, if you will carry on and call on those that you know are definitely here, and if this is agreeable with the Wisconsin group, then I think we can terminate this rather quickly.

MR. SMITH: A representative of the American

Crystal Sugar Company at Chaska is present, and I would like to call on him at this time.

STATEMENT OF J. L. PORTERFIELD, AMERICAN CRYSTAL SUGAR COMPANY

MR. PORTERFIELD: Mr. Chairman, conferees, ladies and gentlemen:

My name is J. L. Porterfield. I represent the American Crystal Sugar Company, with offices in Denver, Colorado. We have a plant in question at this meeting at Chaska, Minnesota.

Now, Chaska is located adjacent to the Minnesota River. As Dr. Hargraves said during today's meeting, I believe, some of the plants are old. The Chaska plant was built in 1906.

We manufacture beet sugar at our plant. We process beets from an area of about 150 miles adjacent to Chaska. We process between 200 and 250 tons of beets through the year.

We operate generally from October to January. However, this year we are running into February.

Harvest conditions have a lot to do with some of the problems we have. If the season is wet, we have a soil condition that is troublesome.

During the early part of the year, we definitely promised the Minnesota Department of Health and the Water Pollution Department that if funds were available, we would make changes at our Chaska plant, which we felt certain would considerably reduce the BOD load going into the river. Those funds have been made available and equipment is on order. With the installation of this equipment we will be able to return the pulp press water back to the system, and we feel confident that we can reduce our BOD load by about 45 percent.

Now, as to the coliform load --

MR. STEIN: Sir, I wonder if I might ask there what would be your BOD load per ton of beets with your new equipment?

MR. PORTERFIELD: I will give it to you by days. I think that we will end up this year with about 16,000 pounds per day.

Now, the reason I hesitate to give you an answer on BOD per ton of beets is because this year throws all those figures into a cocked hat due to the qualities of the crop.

The soil coliform we will not be able to do much about.

The pathogenic or fecal coliform, which we have in the past been putting into the Minnesota River, will be hooked onto the Chaska disposal system this year, so that will be one more item out of the way.

At the present time we do not know how much water we are pumping from the river. We estimate one figure. The State Department of Health, by lithium chloride methods, estimates another figure, which we think is high. We will install a meter on our water pumping station this year, so we will know about what we are pumping. Presently we think we are taking out of and putting back into the river about 5 million gallons of water a day.

That is the conclusion of my statement.

MR. STEIN: Thank you.

Are there any questions or comments?

(No response.)

MR. STEIN: Again, I don't want to particularize any plant that we don't know about, and I certainly don't know about this one. As you know, we have had considerable experience with sugar beet operations.

MR. PORTERFIELD: I am well aware of that.

MR. STEIN: They are now producing BOD loading of 3 pounds per ton of beets, and three or four of the Great Western mills in Nebraska have practically reduced the

BOD loading to the river to zero. On the South Platte River, running through Colorado, we are engaged on a case like this, where sugar beet operations are much more prevalent than they appear to be in this area.

MR. PORTERFIELD: That is not so.

MR. STEIN: That is not so? Possibly not so, but again I think they are thinking of the same kind of achievement. In other words, this is a case where we are put to it, and I think we can get a remarkable reduction.

Off the record.

(Discussion off the record.)

MR. STEIN: Thank you. We will go back to the record now.

Mr. Smith?

MR. SMITH: I would like to call next on a representative of the Upper Mississippi Waterway Association,

STATEMENT OF DEAN K. JOHNSON, EXECUTIVE SECRETARY, UPPER MISSISSIPPI WATERWAY ASSOCIATION

MR. JOHNSON: Gentlemen, I want to read our statement, with some interpolations, based on other statements that have been made.

Then I want to add a comment on a matter that was discussed yesterday.

My name is Dean K. Johnson. I am the Executive Secretary of the Upper Mississippi Waterway Association.

The Upper Mississippi Waterway Association is in its 32nd year of representing industries which ship commodities to or send commodities from the region of the Upper Mississippi by water, and of representing the operators of barges and towboats that carry those commodities. By item, two commodities largest in volume are coal upbound and grain downbound. In 1963, coal tonnage was 2,866,000 tons, or 28.6 percent of total tonnage; grain tonnage was 2,897,000 tons, or 29.1 percent of total tonnage. Petroleum shipments inbound were 2,010,000 tons or 20.3 percent of total tonnage.

Over history and to the present, men of commercial transportation have known that commerce, industry and agriculture thrive where transportation facilities include a vigorous water carrier system. This is for the reason that there is no cheaper way to move bulk commodities than by water. It has followed that here, deep in the North American Continent, receivers and shippers of bulk commodities have remained competitive in the world markets and the effects of this have rippled out in such forms as lower electrical rates, cheaper heating, and a demand for our basic farm crop. But the grain and coal and petroleum businesses are fiercely competitive, so profit margins are low; and the barge and towboat business is the remaining system in which there is complete freedom of access, so it too is fraught with fierce competition and low profit.

The circumstance of river navigation relates to the current discussion of water pollution in this way: shippers and receivers and carriers sense in suggested regulation an attitude that we strive to attain conditions of absolute water purity; they see efforts at compliance with regulation so grounded as involving expense that could reduce the benefits of water transportation, they feel attainment of such standards to be impractical or impossible and they are skeptical whether ever, even before civilization, a river system draining so many and diverse lands had a condition of purity which seems now to be sought.

If measured against standards of purity tending to the absolute, waterway transportation will be guilty of pollution. Speedy and efficient loading of grain barges and unloading of coal barges causes a dust that settles in the river; the very small spill of petroleum over the deck of an oil barge when washed overboard by a heavy rain will, by the nature of oil, show up as an alarmingly large patch on the river's surface.

On the other hand, a malfunction of a pleasure boat function will likewise cause the same large patch. We sense that there is a blame placed on the barge industry 100 percent for the oil, which was remarked upon from time to time, and about which there was newspaper comment. I believe that the reports that were distributed to the members of the audience here demonstrated the willingness of the water transportation industry to comply with reasonable regulations, but they ask that there be concern first.

The members of the Upper Mississippi Waterway Association do not ask that governments charged with responsibility for water purity leave the industries represented by the Association to be free from control. But they do ask that there be concern first for what are the best uses of the rivers and that regulations adopted accommodate those best uses and be economically subject to compliance. In this vein, the Association applauded the Minnesota legislature when its 1963 amendment to the Water Pollution Control Act added commerce, trade, industry and traffic to the subjects for consideration by the Commission when promulgating regulations; the Association joins with the Minnesota Commission in being skeptical whether the river system, measured by present-day standards of health, can (or even has been) a place for swimming.

A comment on the petroleum and soybean oil catastrophes of last spring: the Association asks that the recentness and the drama of those incidents should not cloud the fact of the rarity of their occurrence.

On the subject of the incident involving petroleum and soybean oil last spring, it must be certainly said that measured in terms of damage and annoyance, they were catastrophic. For such incidents, there should not be a vacuum in the law. The citizens of Minnesota and Wisconsin are entitled to have a unit of government which can deal with such occurrences, but I think you know that such dramatic occurrences are very rare, so I urge this:

Regulations and laws framed to manage rare catastrophes ought not to become standards or guidelines applicable to water industries or other industries in their day-to-day operation.

By way of summation, the position of the Upper Mississippi Waterway Association, by resolution adopted October 24, 1963, is this:

> The population explosion has properly caused public and private concern over the limitation on the water resources of the nation and over the competition between transportation, industry, agriculture and governments for the use and re-use of our water resources. On the other hand, this Association senses among government officials charged with legislation and regulation a mood to establish standards for water purity at absolute and clinical or scientific levels and to bring about such standards of purity by prohibiting wastes having less than a clinical purity from entering our streams and waterways. Such a view, and such a system of legislation and regulation, would fail to recognize that our navigable streams and waterways have never been clinically pure and that such streams and waterways are capable of waste assimilation and that a proper place in our economy for our navigable streams and waterways necessarily involves the inadvertent or the intentional disposals

of wastes which are less than clinically pure.

Accordingly, this Association urges industries which navigate upon the waterways or which have waterside plant installations to eliminate waterway disposal of wastes where possible and to minimize such disposals wherever it is economic; on the other hand, this Association likewise urges men of government and students of water use that they seek an accommodation of public, industrial and navigational use and re-use at an optimum commensurate with a policy that the water in the waterway need not be clinically pure if it can be reasonably and economically made clinically pure when its use in that condition is needed.

A specific problem remarked upon yesterday was the matter of the discharge into the river off of towboats of debris and of untreated sewage.

A reading of the laws and the regulations that apply make it appear simply that this should not be done. This is clearly an oversimplification. The question for the barge and towboat operator is "How can we comply?"

I can give you, somewhat by analogy, what I understand to be the case with pleasure boats in Minnesota, which I understand should have had chemical toilets on board

-- at least, those that had toilets should have had an approved chemical toilet on board last summer. As I understand the circumstance, it is that the only toilet subject to approval by the standards adopted has an expense in excess of perhaps some of the boats, and has a size such that it cannot be put on board a pleasure boat.

The situation for the towboat operator who is operating up the Ohio, up the Missouri, from New Orleans all the way up the Mississippi, is essentially the same. What shall he do? They would like to comply.

The builders of the towboats are in a position to design toilets, but with what shall they comply? Shall they comply with the standards of Minnesota, or the standards of Iowa, or the standards of Louisiana? It is not, in this situation, simply enough to consider what laws apply.

Now, here in the audience today is Mr. Jack Lambert, who is the President of the Association for which I speak, and who, for some years, has had a barge operation.

If the gentlemen who yesterday inquired about this circumstance, sewage from the towboat, wish now to ask him questions, he is available. In the alternative, we would like leave, if you want to press on because of the time problem, to submit for the record and to the conferees specific comments on this matter that was discussed so long yesterday. However, Mr. Lambert is here.

MR. STEIN: Do you have any questions or comments?

MR. SMITH: I think we should comment on the marine toilet situation.

Mr. Johannes, would you clarify some of those remarks, or comment on them?

MR. JOHANNES: Yes. The situation, as it stands today, is that two models of marine toilets have been accepted by the Commission. One of these was available for installation last January, but the legislature saw fit to delay the effective date of this Act from the first of January, 1963, to the first of January, 1965. However, at that time it is expected that any pleasure boat owners will have to comply.

MR. JOHNSON: I think the very action of the legislature points up the problem in the area of the pleasure boat operator. It points up also the problem for the barge operator.

The simple statement that there must not be pollution has gone far beyond the technological opportunity for the barge operator to comply.

It was not in Minnesota for the pleasure boat operator simply a matter of forbidding the discharge from the toilets into the lakes and rivers. It occurs that after the law was passed in the first instance, there was no way technologically by which the operator of a pleasure boat could comply with the law.

The barge operator is in the same position. They want to comply. They move throughout the nation, and it is the problem of how do they comply technologically and with what standards do they comply?

MR. STEIN: Are there any other comments or questions?

(No response.)

MR. STEIN: Thank you.

MR. JOHNSON: Thank you.

May we have leave to --

MR. STEIN: You asked a specific question. It is very difficult for the conferees to get together. I have known all but one of the people at this table before. We are all pretty much involved in the field.

At least, speaking for myself, I appreciate your point of view. The conferees are going to come to a determination. I think your point of view has been well and succinctly expressed.

We would be glad to put your material into the record. If you think that anything happens in the summary which does violence to your point of view, because we don't have the point, we would like to have it then. In other words, we are not going to delay the conclusions and recommendations because of this, but we will be delighted to hold the record open.

Can you get that in in a week?

MR. JOHNSON: Yes.

MR. STEIN: If you would.

MR. JOHNSON: I will do that.

(The supplemental statement submitted by Mr. Johnson is as follows:

During the course of this conference there has been vigorous criticism of towboat operators whose on-board toilet facilities deposit human wastes directly into the river system. Without disputing that this conduct is water pollution of a high degree, this Association suggests to the conferees that the number of towboats in the waters of the Mississippi are few and that the pollution from this source is so slight as to be not measurable in comparison with similar pollution from other sources such as pleasure craft and municipal sewer discharges.

However, the real problem to which there needs to be attention is the matter of what the barge operators should do to prevent this kind of pollution. Some kinds of chemical toilet facilities are now available for barges.

For the owner of an existing towboat, the expense of redesigning the interior of a boat to accommodate this kind of treatment facility can be very great. For the purchaser of a new towboat which can be designed in the first instance to accommodate this kind of treatment facility, the expense is not quite so great. Apart from this matter of expense, the nub of the problem is that, during a typical river navigation season, the towboat is likely to be all up and down the Mississippi River and into the valleys of the Ohio and the Missouri and on to their tributaries -- in other words, throughout the central United States. It is typical that, as here at the headwaters of the Mississippi, two States and the Federal Government may exercise concurrent jurisdiction over towboats operating in a navigable stream. A towboat operator who can obtain the funds to accommodate a treatment facility faces the possibility that, after a substantial expenditure, his facility may comply with standards which, for instance, might be adopted by Minnesota but not with standards which, for instance, might be adopted by Wisconsin or by the Federal Government; or it may be in compliance with Ohio regulations but not Pennsylvania regulations, and so forth.

Other subjects about which there were comment were refuse (garbage and burnables) and bilge waters. The traditional design of towboats used throughout the central United States has not included the requirement of long-term storage facilities for garbage and burnables and has necessarily involved the regular discharge of waters accumulated in the bilge areas. Household size cans are not satisfactory for the retention of garbage because garbage collects in an amount beyond that which can be stored in a sanitary manner between dockings; the same thing is true of burnables, and incinerators are not the answer because of Coast Guard and insurance prohibitions. The accumulation of bilge waters is an unavoidable aspect of the operation of water craft and these bilge waters must be discharged from time to time before they rise high enough to damage towboat machinery, but the only present facility for discharge of bilge waters off the stream exists in private commercial boat stores which are seldom located close enough for the regular and complete discharge of all bilge waters. A direct discharge of garbage and burnables and bilge waters into the stream may be illegal under existing State and Federal statutes and it is known to be offensive but, absent off-stream aids and uniform and approved regulations and appliances, towboat operators presently have little recourse. A last item mentioned during this conference was the discharge of liquid products, especially petroleum, from barges. The economic penalty on a carrier for the loss of the commodity which he carries is severe and this penalty is a strong deterrent on the intentional discharge of liquids from a barge; it follows that this discharge is almost always accidental. The most careful planning and regulation will not avoid the rupture of a barge on a snag or sandbar which did not exist when the pilot last passed through the area. This Association wants the conferees to know that every possible measure is taken by its carrier members to prevent the direct discharge of polluting liquids into navigable streams and that the occasions of pollutions of streams by such liquids is no more within the control of water carriers than are such incidents as the condemnation of roadways by the rupture of a truck tank in an automobile collision or the distribution of petroleum from a rail tanker in a derailment.

It is thus the circumstance that the mere prohibition against the discharge of polluting materials from towboats or barges into a navigable stream will not accomplish the desired result (unless, of course, the result of vigorous enforcement should cause towboat operators to avoid the river involved); instead, the towboat and barge operators represented by this Association look to the conferees at this meeting to learn about and contemplate the waste accumulation problems with which the barge operator must deal and to suggest to him and to government officials elsewhere on the river system a program both uniform and economically feasible under which the barge and towboat operators may join with other interested parties in minimizing pollution of our nation's streams and waterways.

Respectfully submitted

Dean K. Johnson

Executive Secretary

Upper Mississippi Waterway Association.)

* * *

MR. STEIN: Mr. Smith?

MR. SMITH: I believe representatives of Clear Water are here and they wish to make a statement.

STATEMENT OF WARREN BJORKLUND, VICE PRESIDENT, CLEAR AIR CLEAR WATER UNLIMITED

MR. BJORKLUND: I am Warren Bjorklund, Newport, Minnesota, Vice President of Clear Air Clear Water Unlimited.

Mr. Chairman, conferees, ladies and gentlemen:

Clear Air Clear Water Unlimited is an organization of people interested in our water resources and in preventing air and water pollution.

Our actions are limited only by the financial help and enthusiasm of the members. Our major effort is in the area of encouraging good legislation, reporting incidents of pollution to the proper authorities, and educating an all too indifferent public to the seriousness of our water problems.

In the seven years of our existence, we have seen considerable progress -- the installation of sewage disposal plants, changes in State laws, and a greater concern by the public for the water pollution problem. In spite of this progress, the Mississippi River is more polluted in the Twin Cities area than it was seven years ago.

The Twin City Metropolitan Sanitary District expansion program, when complete, will no doubt improve the present condition. New industrial wastes will offset this progress unless proper safeguards are made. We do not believe the proposed standard of pollution set up for this area is consistent with our moral obligation to help keep the river as clean as possible for our friends downstream. I wonder what we in the Twin Cities would say if the same standard were applied for an industrial area between St. Cloud and Little Falls.

I would like to say that though we differ with the ideas and actions of the Water Pollution Commission, Conservation Department, and other State departments on occasion, we realize that they have their problems, and in most cases these people are dedicated and are making a most unselfish contribution for the benefit of the citizens of Minnesota. We thank them for their cooperation with our group.

As we see it, one of the major problems is lack of authority to discourage and stop industrial pollution. By authority, we mean a single department with people and money enough to enforce the existing laws. Additional legislation to discourage pollution is also necessary. We would like to cite instances where serious pollution existed and no government agency had the legal means, personnel or authority to prevent a major disaster.

The Honeymead Paper Company in Mankato had an accident in December of 1962, where over 2-½ million gallons of oil burst from storage tanks. To state it simply, real efforts were made to recover part of this spillage, yet thousands of ducks were killed months later by the oil contamination in the Upper Mississippi. Another spillage accident at Richards Oil Company in Savage complicated the disaster.

I would like to quote from a letter from the Conservation Department to Representative Albertson as the result of this disaster:

> "There are several items that should be cleared up in regard to the Department of Conservation's authority and duty with regard to these two accidents. First of all, we have authority under two laws to take action when water is being polluted. One law, Chapter 101.42, Section 17, states that it is unlawful to deposit refuse, sawdust, shavings, oil, tar, or chemicals into the waters of this state providing that it can be shown at the time that this material was deposited in such quantities as to cause injury or to be detrimental to the propagation of any wild animal found

"in or upon the waters. Only when we can prove this was detrimental to wild animals could action be taken by this Department. At the time of the discharges there was no proof that this material was affecting wild animal life in the waters."

How naive can we be? Here is over a million gallons of soybean oil, and over a million gallons of petroleum products dumped into the river, and our conservation department says that we have no proof that this material is affecting wild and animal life.

This letter, incidentally, was written in April of last year. Continuing with quoting from his letter:

"The second point I wish to make is that there was no money available for this Department to engage in clean-up operations of this type.

"The other law which is in our game and fish code is Section 616.163 which forbids the throwing, dumping or depositing in any lake, stream, river, or any body of public water or on the ice thereof, any trash, rubbish, garbage or other litter. The penalty for violation of either of the laws I have cited is a misdemeanor. What we lack, in this state, are laws dealing with the pollution that have teeth in them. The other problem is that we have

> "so many different agencies of the state and federal government dealing with various phases of water laws and pollution that there is no one single agency that can move in and do a job when such a catastrophe as happened last winter occurs."

This last paragraph I heartily agree with. These things are really part of the problem, but to think that the Conservation Department feels that they are helpless to do anything about the probability of a major duck disaster I think is just a shame for the State of Minnesota.

We submit, gentlemen, there is a lack of authority in a single agency to prevent this from happening again. The Rosenmeier Bill will help some, but additional money and personnel for the department will be needed to make it effective.

These spillage accidents received national publicity because of the dramatic duck kill and costly clean-up operation. We were told no legal action can be taken against the companies involved to recover the State's estimated expenditure of $35,000 for clean-up operations or the value of the ducks destroyed.

Diverging a minute, the morning paper changed this a little bit in that the Federal Government is taking some action.

While we talk about this disaster, other smaller incidents of oil spillage continue with knowledge of the Water Pollution Commission, and nothing can be done to stop it because we cannot prove damage. Recently a quantity of oil was spilled in the Pine Bend area. This was reported to the Water Pollution Commission and, as far as we know, a check was made and the company involved was, in effect, told, "Please, fellows, don't do it any more." The answer by the Commission to those making the complaint was, "We don't have enough proof of pollution damage." This approach has led to a continuing increase in pollution of the Mississippi River and other State waters.

I would like to quote Minnesota Statutes Sec. 115.01 - Sub. 5:

> "Pollution means the contamination of any waters of the state so as to create a nuisance, or render such waters unclean, or noxious, or impure, so as to be actually or potentially harmful or detrimental or injurious to public health, safety, or welfare, to domestic, commercial, industrial or recreational use, or to livestock, wild animals, birds, fish, or other aquatic life."

To our knowledge, the Water Pollution Commission has prosecuted only two violators under this State law -- one a construction firm for disposing of waste oil in a roadside ditch, and another for disposing of a small quantity of oil in the river at Pine River, Minnesota. We believe that if a schedule of fines consistent with the seriousness of the pollution could be established and simplified procedures of prosecution, it would go a long way toward eliminating frequent incidents of industrial pollution. If top management knows they could be fined $500, $1,000 or $5,000 for negligent handling of toxic material, and if each individual workman knew he might be fined $100 or more or lose his job because of indifference to this pollution problem, we would quickly see many of the oil slicks eliminated from our otherwise beautiful lakes and rivers.

We note that the "Long Range Water Pollution Control Plan and Program" submitted by the Water Pollution Control Commission to this hearing contains no recommendation for new or amended legislation.

I read that very briefly. That statement may be in error, Mr. Wilson, but I think it is correct.

We have laws limiting game kills per hunter per day, fish limits, laws against destruction of trees, with rather severe fines for violation. This evidently is effective. It appears to be ridiculous that we can be fined $50 for littering a highway with a beer can, but we can carelessly spill a thousand gallons of oil on the river, and because nobody proves that a given fish or duck was affected by this spillage, no penalty is imposed. The "please don't" letters by the Water Pollution Commission, Department of Health, and Conservation Department, are not enough. Thoughtful punitive legislation will be helpful.

I would like to comment briefly on some other statements made here this afternoon.

I think this hearing is a great thing. It is going to bring out the problem, but I would be very unhappy if it turned out to be a whitewash and we believed everything that all these people have said here today, and if, as someone said, "The road to hell is covered with good intentions." We don't want that to happen to our problem here.

However, I would like to question a comment by the engineer from South St. Paul on 80 percent of the solids being removed as an average. I happen to live in Newport, and I have seen this many times, where there are substantial patches of animal fat that are in the river, particularly during the wintertime.

This may still only be that 12 percent that they throw out on this one particular day, but these things are happening and it is just a nasty situation.

You only have to spend a few hours on the river in the summertime, particularly between St. Paul and the Spring Lake area, to find substantial areas covered with oil film.

We grant that a lot of this is necessary. We are never going to have a trout stream, but certainly enough evidence that carelessness is responsible for a great deal of this has been submitted, so that legislation of some sort should be made to correct these things.

As others have said today, the pollution problem is serious. We have a great resource to protect. Let us give a clean water heritage to the next generation of industrialists, sportsmen, and all other people that need water.

Thank you for your kind attention.

MR. STEIN: Thank you.

Are there any comments or questions?

(No response.)

MR. STEIN: Thank you very much.

MR. WILSON: Mr. Chairman, I just want to call attention to one point that was brought out by Mr. Bjorklund. He may be assured that the Commission is most attentive to all the problems to which he has called attention. I don't think that he read carefully all the statements in this preliminary draft for a long-range program.

I want to call his attention to one in particular, where it says: "Details will be treated in succeeding chapters." This is merely the preliminary draft for a part of the program which states the background material and the different operations, 19 different operations, which the Commission must follow, which included this matter of dealing with these very oil spill incidents that Mr. Bjorklund called attention to.

The Commission has recognized that that is a serious problem that demands attention, but the specific recommendations for legislation or other measures to deal with that are not included in this draft. There hasn't been time to prepare that, and the Commission has until the first of next January to complete this comprehensive plan and program. A great deal remains to be considered and added before this final plan is promulgated by the Commission.

This advance draft was simply issued at this time by the Commission to invite all persons concerned to make their suggestions; and if the Clear Air Clear Water or the Upper Mississippi Pollution Control Committee have any suggestions to make, they will be most welcome.

I want to call their attention to this: In order to convict a person of a crime, it is necessary to prove the elements of the crime beyond a reasonable doubt. Also, no matter how bad an oil slick looks, unless you can first prove the origin of the oil slick, which has been proved in some of these cases, and also prove that that particular oil slick was actually or potentially detrimental to some actual fish or waterfowl or other wildlife in the stream, you fail of securing evidence to prove a conviction. If you start prosecutions and fail to get convictions for a lack of evidence, it weakens your law enforcement program.

Now, if people want a law which will penalize carelessness, that may be sought from the legislature. The legislature has enacted such laws which penalize negligence and carelessness. It has not done so in the case of the law to which Mr. Bjorklund called attention.

That requires definite proof of some sort of a deliberate act or omission, which resulted in this actual or potential harm to wildlife.

So that if more strict penalties are desired on this matter of carelessness, or if the legislature is going to punish on assumptions, that has to be written into the law.

Whether that kind of a law will be sustained by the courts, remains to be seen. If the legislature attempts to go that far, it is obviously going to create some problems, and people who are accused and charged with a crime simply for carelessness are undoubtedly going to contest the reasonableness of that type of legislation.

However, we haven't reached that point yet because the legislature has not passed that kind of a law with reference to these oil spills.

MR. STEIN: Not in Minnesota.

MR. WILSON: Not in Minnesota. No. It may have done so elsewhere.

MR. BJORKLUND: Mr. Wilson, our point is that in our existing legislation we have this phrase, that pollution means the contamination of any waters of the State so as to create a nuisance or render such waters unclean or noxious or impure, so as to be actually or potentially harmful.

Now, this to me means that if somebody has discharged 1,000 gallons of oil into an area, it would seem to me that our experts in the Conservation Department, our scientists at the University, somewhere, somehow, somebody should figure out that what goes in is potentially harmful. These ducks get killed because the oil gets on them.

Now, you are the attorney for the Water Pollution Commission. In other words, your position is that if somebody deposits 1,000 gallons of oil in the water, it is not potentially harmful.

MR. WILSON: I think, Mr. Bjorklund, you have completely misunderstood the effect of that statute.

That statute is the basis of the Water Pollution Control Act under which the Commission has certain authority to issue the abatement orders after the adoption of standards and the holding of hearings.

That pollution definition is not a penal law. There is no provision in our law which says that anybody who commits pollution is guilty of a crime. That provision that you read is the basis of the Water Pollution Control Law, under which the Commission operates by these measures that I have told about.

When it comes to criminal prosecution, you have to proceed under the other sections of the statute where, as I said, proof of those elements is required beyond a reasonable doubt.

Now, if you can persuade the legislature to adopt more definite criminal laws, well and good.

But let me call attention to this: If very much of the activity of the Water Pollution Control Commission is required in the enforcement of criminal laws, it will have to have a police force. It has no police force.

The Conservation Department has a police force in the person of game wardens, and they do give a lot of assistance in these matters of pollution. However, the Water Pollution Control Commission has no control over them.

It has no police force or inspection force of its own, and if there are to be introduced into the law definite penal provisions which the Water Pollution Control Commission has to enforce, it would be an empty gesture to put them in the law without providing a police force that could operate all over the State, like the game wardens or like the highway traffic patrol.

At present, the Water Pollution Commission is in about the same position that the Commissioner of Highways would be in with all these severe traffic laws, but no officers to enforce them.

MR. BJORKLUND: Well, I know that this would be an extensive debate if I wrestled with Mr. Wilson, so I will drop my part of it there.

Thank you very kindly.

MR. STEIN: Are there any other comments or questions?

(No response.)

MR. STEIN: If not, Mr. Smith?

MR. SMITH: Are the representatives of any other group or organization present who wish to be heard at this time?

MR. ALBRECHT: I am from the Upper Mississippi Pollution Control Committee.

MR. SMITH: Will you state your name, please?

STATEMENT OF ARLIN ALBRECHT, UPPER MISSISSIPPI POLLUTION CONTROL COMMITTEE

MR. ALBRECHT: My name is Arlin Albrecht. I am from Red Wing. I represent the Upper Mississippi Pollution Control Committee.

We feel a crime of civilization is being committed against people who live along the Mississippi below Minneapolis-St. Paul, and we are here to protest that crime.

Our protest is simple:

The technological means exist to provide a reasonably clean river downstream from a big metropolitan complex, but those means are not presently being employed.

In other words, the section of Mississippi we want to use and enjoy is contaminated and polluted not because pollution is an inevitable accompaniment of modern industry and metropolitan growth.

It is contaminated and polluted because of the human failure of Twin Cities area people -- the human failure to treat their own wastes as they ought to do, as our scientific know-how permits, as neighborliness and common decency require.

The Upper Mississippi Pollution Control Committee which makes this plea is an organization of individuals who live downstream from Minneapolis-St. Paul as far as La Crosse, Wisconsin.

We are ordinary citizens, drawn from all walks of life. We are drawn together by one common bond -- we are revolted that a magnificent river, which could be reasonably clean and usable, is a mass of pollution instead.

We are all laymen -- not biologists or sanitary engineers -- and we can only speak in lay terms.

We do not wish to indulge in propaganda or to make an emotional outcry against conditions which cannot be changed if we are to enjoy the benefits of 20th century-living in a modern, industrial society. We want to be reasonable and restrained.

But we insist on one principle: Communities upriver ought to be willing to make as great an effort as we -- to accept as great a financial sacrifice in taxes and sewer charges in order to treat their wastes before putting them into the Mississippi River, which we all share in common.

In the Mississippi below Minneapolis-St. Paul, Minnesota and Wisconsin share together one of the natural wonders and magnificent playgrounds of the Upper Midwest.

It is a region marked by distinctive bluffs and wooded hills, by blue water and secluded bays -- a natural place for modern man to escape the hectic pace of city life and absorb the peace and beauty of the great outdoors.

A mighty river has created this natural beauty in its meanderings. And it is a monumental piece of human error that this same river should now carry a constant stream of pollution past the places of beauty it has created.

It is impossible to calculate the monetary loss that results from pollution. No one can set a price on the loss to outdoors lovers who witness the corruption of natural beauty. But we can point specifically to the disheartening situations faced by boaters, fishermen, swimmers, resort owners, and families in simple search of a pleasant day's outing.

The boater abounds along our part of the Mississippi, and his wants are simple. But he wants more than the opportunity to leave a churning brown wake behind his stern.

Most likely, the boater is seeking a restful place for his family to spend a summer afternoon. These pleasant places abound on the river below the Twin Cities. The sand is there, the privacy is there, and the promise of a rewarding day is there, so long as nobody goes near the water.

For a stretch of river some 25 miles below the Twin Cities, swimming involves a positive health hazard. For the squeamish, that mileage could be extended to 40.

Water skiing holds the same hazards, and playing in the sand below high-water mark is not looked upon with favor by conscientious parents.

The average boater gets a feeling of absolute frustration when he rounds the bend into an inviting bay only to find oil slicks on the water's surface or a chemical scum carried in from the main channel.

Scores of long-time fishermen have abandoned the river -- sick to disgust with going home empty-handed or catching fish that prove inedible because of an oily taste.

All kinds of visitors come to the Mississippi to admire the rugged bluffs and peaceful valleys that rise away from the river. But they do not admire the fact that it is impossible to see your hand three inches below the surface. Nor do they admire the dirty film that coats your hand as it is withdrawn.

Upriver communities, we insist, ought to make as great a financial effort to protect our river as we make to protect the river that people use below us.

Take Red Wing, Minnesota, where the Upper Mississippi Pollution Control Committee has its headquarters:

Red Wing, in the years 1960-63, made a capital investment (exclusive of Federal and State aid) of $2,011,000 in primary and secondary sewage treatment facilities that regularly remove 90 percent or more of harmful pollutants.

For a population of 10,528 (1960 Census), Red Wing's capital investment is $191 per capita.

The Minneapolis-St. Paul urbanized area (1960 Census) has 1,377,143 people. If the same $191 per capita were invested, the Twin Cities area would have over $263 million available for sewage treatment.

It seems to us that every consideration of justice and decency demands that the Twin Cities metropolitan area be willing to spend this much, if necessary, in order to protect the river we want to enjoy.

Thank you.

MR. STEIN: Thank you.

Are there any comments or questions?

MR. SMITH: Yes.

Do you attribute the brown color of the river entirely to sewage and industrial waste discharges?

MR. ALBRECHT: Certainly not. The brown color of the river is brought on by factors that include the municipal waste and industrial waste. It also includes soil erosion and various other factors that we have touched on in this conference.

MR. SMITH: This same statement applies to the fact that you can't seen your hand three inches below the surface of the water?

MR. ALBRECHT: I suspect it does. Yes.

MR. SMITH: I didn't get this inference. You referred to sewage and industrial waste, and I may have missed it, but I didn't hear any reference to siltation and to soil conservation.

MR. ALBRECHT: I think I was speaking in broad terms -- in terms of what we consider to be the primary problem -- namely, municipal wastes.

MR. SMITH: I think also in your comparison of costs and expenditures -- I don't want to appear to be defending the Twin Cities, but I think in the cost, you must remember that they, in years past, spent funds for construction of the interceptor sewers and a primary treatment plant, which is included in the figure that you gave for Red Wing.

MR. ALBRECHT: Yes, I realize that.

MR. SMITH: That is all.

MR. STEIN: Are there any further questions?

DR. HARGRAVES: I think some other things ought to be mentioned regarding the fertility, of course, which no plant is yet able to take out, and which gives rise to the algal growth and other things.

If you follow with any particular interest the farm ponds and the reservoirs, and the fishing activities in these, the best lakes are those where you can't see your hand when you submerge it down to the elbow, because of the fertility that is present. The best fishing is present there.

I am not saying that this is waste from industry and so on. This is fertility where the farmer throws in the fertility elements and raises these microscopic organisms, so that the fish can feed on them. This certainly has to be included in the studies that are to be done, as to how much this opacity or density of the water is due to fertility elements which are actually an aid to fishing.

MR. ALBRECHT: However, I am sure that you are familiar enough with the clear water lakes, as opposed to the river, to feel the difference when you put your hand in the water.

DR. HARGRAVES: Oh, yes. I am not denying what you say. I am just saying for the record that this ought to be part of the study that goes on here, as to the effect of fertility and other things on the fish habitat, because the best fishing, it should be pointed out, from farm pond experience and from reservoir experience, is where the fertility is sufficient to give organic life of this sort that does take it out of the clear water, clear lake type of fishing.

In those areas in the north country we raise five pounds of fish per acre, or thereabouts. When you get a good fertilized lake, it can run five or six hundred pounds per acre, so that this is not all without some question of good as far as we who like fishing are concerned. I think this should be part of the Federal study, that we ought to know more about these agents.

MR. ALBRECHT: Well, I certainly agree with that.

MR. STEIN: Are there any other comments?

MR. MUEGGE: I have one question.

MR. STEIN: Mr. Muegge.

MR. MUEGGE: I am going to get over here with you temporarily.

MR. ALBRECHT: Surely.

MR. MUEGGE: In your statement, you said something about there being a public health hazard for a distance of 25 miles below the Minneapolis-St. Paul treatment works, which, for the squeamish extended to 40 miles.

Why would the squeamish people be more susceptible to public health hazards?

MR. ALBRECHT: I think we are getting into a question of semantics here. My meaning was that the river was not what you might call wholesome, and that the squeamish tend to avoid it, not necessarily that it would be a health hazard only for the squeamish.

I am sorry if I didn't make that clear.

MR. STEIN: Are there any other comments or questions?

(No response.)

MR. SMITH: That is all.

MR. STEIN: Thank you, sir.

MR. SMITH: Are there any other representatives of groups who wish to make statements?

MR. STEIN: Would you identify yourself, please? Give us your name and your connection.

STATEMENT OF GEORGE SERBESKU, SPRING LAKE, MINNESOTA

MR. SERBESKU: My name is George Serbesku. I live on Spring Lake and I represent some of the families that live there.

I didn't intend to speak, but what I would like to say is that in or about, oh, September, when this spill was going on, I had picked up some ducks -- and, naturally, the one you are talking to is your game warden, so I did. What came of it? I was told that by picking up these oily ducks that couldn't fly, I am liable for a ticket. Yet Mr. Wilson says you have to have the proof. They wouldn't let me keep the proof, so how are you going to do anything?

It just goes to show that 15 barrels of oil covered all the backwaters in there and affected somewhere in the neighborhood of what I had found, seven ducks, and friends of mine that found ten, and we were liable for a ticket because we had picked them up without -- they call it a permit for capture. That is what the Federal Department calls it. I didn't have mine for that period, so I couldn't keep them and I was breaking the law.

So, what I got a plaque for in March from the

Governor for doing in the spring of the year, I get a ticket for in September or October. I am the guy who went to the Governor with these ducks last spring.

Any questions?

(Laughter.)

MR. MUEGGE: Spring Lake has been mentioned before by commercial fishermen. Where is it located?

MR. SERBESKU: Spring Lake is located about --

MR. STEIN: Why don't you turn to the map?

MR. SERBESKU: It is right here (indicating). Actually, it is about five miles up from Hastings Dam, and it is off on the southern side in Dakota County. The river is the dividing line between Washington and Dakota, and we are on the south side. It is approximately five miles long and a mile and a half wide. Right now, and even in 20 below zero weather, the water is open 10 feet from shore from my house, oh, around the rest of the lake for -- well, it is about four miles. That is why it is called the Spring Lake.

MR. MUEGGE: Does it have a connection so that the river water can get into it?

MR. SERBESKU: Well, it used to be closed off from the river until our Federal Government put in a dredging system up at the upper end and ruined that, so now we can't do much fishing there any more.

We are trying to get it closed. I have an acre of ground donated up at the head end of the lake that I have been trying to get off my hands. It was donated to the State, to the Federal Government -- anyone who wanted it for a landing or a park or a picnic ground -- but nobody wants to seem to take it off my hands. I will be paying taxes on it next year. It was given to me, but nobody wants it.

MR. MUEGGE: They might put a trailer on it during the study project.

MR. SERBESKU: I was out there yesterday and looked at it.

MR. STEIN: Are there any comments or questions?

(No response.)

MR. STEIN: Thank you very much, sir.

MR. SMITH: I have one more. I believe Mrs. Edith Peller would like to enter some material into the record.

MR. STEIN: Will you identify yourself first?

DR. HARGRAVES: Tell us what you are going to give us.

STATEMENT OF MRS. EDITH PELLER, EXCELSIOR, MINNESOTA

MRS. PELLER: I am Mrs. Edith Peller from Excelsior, Minnesota, and I am a free-lance writer.

I would like to submit to the conferees this story, "Operation Duck Rescue" and "Path of Pollution Pursued," which was in Audubon Magazine for November 1963, and which has been introduced into the Congressional Record by Congressman Dingell with the Federal Water Pollution Act.

I wanted to ask a question of the conferees, specifically about the -- not about the criminal proceedings or the penal measures that might have been taken with Honeymead and with Richards Oil Company, but before that time. This question, I think, is pertinent in a study in terms of future accidents.

We have been told that the different agencies of government could not take action at the time this happened, but they did take some action.

Now, why does this make a difference? The Richards Oil Company had the disaster on December 15th. In that same month, it was reported by Ernie Boyd, Game Warden, and on January the 20th, the Minnesota Department of Health men were sent to Richards Oil Company. Richards Oil Company was told to clean the oil mess up.

The Honeymead accident happened on January 23rd. In February, Jerry Lamont, the State Game Warden, reported it to the Federal -- I am not sure whether it was the United States Fish and Wildlife Service or the United States Department of Health. At any rate, the United States Department of the Interior release No. 5634 states that the disposal of the oil by dumping into the river was halted by the Federal Government.

So they dumped it onto a farm and it went down a ravine into the Blue Earth River and everybody forgot about it.

DR. HARGRAVES: Mrs. Peller, I hate to do this, to this charming lady, who has come up here and left herself open for questions, and so on, but they are going to close this up on us in 55 minutes.

The question you are raising is going to require a whole lot of legal explanation. We have almost a volume written on this, with colored photographs, and we will back you up in most of the things that you are going to say. I just don't think we can take this time, if you will forgive us.

MRS. PELLER: Surely.

DR. HARGRAVES: We will supply you with this material on the oil spills, the dates we called, and the dates we went to the Richards Oil Company. All of this is in the records.

I think Mr. Wilson attempted to answer the problems in part from a difference of a criminal code and otherwise. Here is tonight's paper, in which it says:

"U.S. files pollution control complaint and the Savage firm is charged with a law violation."

It is already on its way to court.

MRS. PELLER: That wasn't my point.

DR. HARGRAVES: I know what your point was.

MRS. PELLER: My point was before the ducks died.

DR. HARGRAVES: I understand, but there are a lot of complications in that.

MRS. PELLER: Everybody fell asleep until the ducks suddenly --

DR. HARGRAVES: We didn't fall asleep because that was ditched into a lagoon. It was embanked. We stopped the city from bulldozing it off the streets into the river.

Essentially, all of the things were done that could be done.

I will agree with you perfectly. The greatest difficulty was when they first started, they continued to break the law, and something should have been done at that time. I am fully sympathetic with you on that, and I hope that if it ever happens again we will see that they are prosecuted.

MRS. PELLER: Thank you. I will turn my statement and the attached papers over to the reporter, if I may.

MR. STEIN: They will be incorporated in the record. Thank you.

(The statements submitted by Mrs. Peller are as follows:

THE DESECRATION OF OUR RIVERS

by

EDITH PELLER

Route 7, Box 714
Excelsior, Minnesota

I. OPERATION DUCK RESCUE
II. PATH OF POLLUTION PURSUED

by

EDITH PELLER

E. Peller

I. OPERATION DUCK RESCUE

On Thursday, March 28, 1963, John Serbesku, 16-year-old son of George and Dorothy Serbesku, saw ducks covered with oil, struggling and squawking, trying to swim thru slimy, oil-coated waters to shore near their home at Spring Lake, Minnesota. While his father swore with deep anger at the pollution of the waters and those responsible for it, John suggested they try to rescue ducks on the lake and along the shore and wash them. So George bought a big package of soap powder, handed it to his wife, who washed 38 ducks that day in their shed-basement, and that is how the rescue operation started.

Today, nine days later, Governor Karl Rolvaag is spearheading Operation Duck Rescue, coordinating all agencies involved, which includes the State Department of Conservation, the U. S. Fish & Wildlife Service, the U. S. Army Corps of Engineers, the Minnesota National Guard, the State and Federal Health Departments, the Attorney General's office, as well as the Serbeskus' rescue operations and the scores of volunteers.

Oil pollution of waters occurred with the thawing of ice first on the Blue Earth River, then the Minnesota

River. On Friday, December 15, 1962, a crude oil tank burst at the Richards Oil Company, Savage, Minnesota -- not too far from where the Minnesota River joins the Mississippi. On February 23, a soybean oil tank burst at the Honeymead Products Company at Mankato, Minnesota. The ice held the oil from spreading. Then at ice break-up, millions of gallons of crude and soybean oil flowed into the rivers. This occurred at the worst possible time, with the ducks coming up the Mississippi flyway, and geese and swan to follow. Although there is still oil in the Minnesota River along the banks and in pockets, the water flowed swiftly enough, so that a concentration of oil was not too evident until it reached the South St. Paul area of the Mississippi River where it widens and curves, within which there are several small lakes and islands where the birds ordinarily drop to rest and feed. This includes Spring Lake, River Lake, Baldwin Lake, Moore Lake, Lower Gray Cloud Island, Gray Cloud Island, North Lake, Sturgeon Lake, and Red Wing.

This is one trouble area. At that time, the Mississippi River was still frozen at Lake Pepin, another widening of the Mississippi River. On Tuesday, April 2nd, the first barges broke through the ice and Lake Pepin became a second potential disaster area. Some 28 miles from Lake

City at Lake Pepin is Weaver, the beginning of the river bottom areas of the Upper Mississippi River Fish and Wildlife Refuge. This is a favorite resting and feeding area for migrating birds. With the opening of Lake Pepin, oil began to accumulate in pockets nearing the Weaver bottoms.

The emergency rescue operation began and is continuing at the Serbesku home. I think you will be interested to hear how one family set the spark for action of all of the governmental agencies. Dorothy Serbesku did it by working all day and into the night washing birds, and George, when he wasn't out with his son on the lake rescuing them, made his voice felt whenever he could find ears to hear. This is an eye-witness account.

I did not know the family before. Reading of the disaster, I telephoned the State Conservation Department and they suggested the Serbeskus could use help, so for the past four days I have driven 80 miles and worked, washing and feeding birds, listening, talking with State, Federal and University people trying to see the many problems involved, and what solutions were possible.

Neither Mr. or Mrs. Serbesku are members of the Audubon Society or any conservation group, but their interest in conservation of all wildlife is a deep and passionate thing. They live very simply and are of very modest means.

Mrs. Serbesku is a practical nurse at a nursing home and Mr. Serbesku is a livestock weigher. Both are on sick leave because of an automobile accident. They had no adequate facilities nor finances for rescue work, but I think they felt someone had to do something, so they did. Their dedication and concentration on the immediate job to be done is unbelievable. I have yet to see them take time off to eat during the day. They look tired, they are tired out, but the disaster keeps them going.

Mr. Serbesku is short, stocky, and dynamic. He has been an angry man, frustrated by the delays in rescue, but showing much warmth and appreciation as more help pours in. His wife, Dorothy, is attractive, quiet, soft-spoken and efficient. She gives the volunteers no orders, but they find themselves washing and drying birds, while she is washing birds, preparing fresh water, seeing there are crates filled with straw, and everything organized so work can proceed as quickly as possible.

Let me describe the basement shed where we work. It is old, unpainted and has a dirt floor, mostly mud now. Every so often, someone widens a ditch in the "floor" for water to drain off. There is a washing machine, so hoses were attached to the faucets which fill an old bathtub in which the birds are washed. Then we use a small boiler and a couple of pails filled with rinsing water. An oil stove supplies the heat. For hot water, there is a 20-gallon gas tank, and with this slow and inadequate supply of hot water, we can still wash 250 or 300 birds a day. By the time I joined the group, someone had contributed a stock tank. However, it needed so much water, which cooled off so rapidly, we finally used it to put the oil-soaked birds in and transferred them to the bathtub as we could. No type of hot air to dry the birds, so we use rags, which Dorothy then washes and dries every night. Then we have a "sick-bay." This is a washtub in which we put the washed birds who appear very weak and ill. "Sick-bay" is close to the oil heater and the birds are kept warm with clean rugs. Not scientific? Nothing about this, even the kind and amount of soap used, has been carefully checked for safety to birds and for best results. But no one knows the scientific way to do it -- and up to now, no facilities have been available.

OPERATION DUCK RESCUE DIARY

Thursday, March 28th:

While Dorothy washed birds, George, covered with oily mud, carried two bushel baskets of gray oil-covered dead birds to the State Legislature and asked for help, forcefully. He said some of the men he talked to objected to his language, but he was careful there were no women around when he voiced his anger in none too polite terms. He went to the State Conservation Department and the U. S. Fish and Wildlife Service. He called the newspapers and the TV channels asking them to come and see for themselves and make a plea for volunteers, men, boats, motors and women to help clean birds, and to get government action on the pollution of the waters.

Friday, March 29th:

Kenneth LaBoone, State game warden, came out with a canoe and went to work rescuing ducks. Newsmen and TV men came out. Neighbors began to help collect and wash birds. That day, 172 birds were saved and the next stage began. The State Conservation Department began trucking them to the Carlos Avery State Game Farm at Forest Lake, Minnesota. They provided bird cages, straw and gunny sacks. At the Game Farm, they were washed again and feeding attempts began with a chick scratch mash. Three soap companies came out and left soap products. One, Tony Langersfeld, who has Amway, an organic soap company in Hastings, spent all afternoon mixing solutions to try to remove the thick gray soybean coating which wasn't coming off in the washing operations and did achieve a measure of improvement.

Saturday, March 30th:

More help arrived and 300 birds were saved. The dead birds began to pile up.

Sunday and Monday, March 31st and April 1st:

250 to 300 birds saved each day.

Monday, April 1st:

The Minneapolis and St. Paul newspapers had the big spread on the disaster. Forest Lee, supervisor, Minnesota Game Research Unit, said, "It's impossible to tell how many ducks and small mammals have been affected, but I would say eight to ten thousand is a conservative figure." The Richards plant at Savage began an oil burning operation, but thousands of gallons of oil were still lying in ditches. 150 gallons of emulsifier were ordered by the Richards firm to be flown from New York to spray the fuel oil.

John Fletcher, director of the Como Zoo in St. Paul, set up a "duck laundry" and fenced off an area of the basement floor to house the ducks.

The new Governor, Karl Rolvaag, held an emergency evening meeting with State and Federal personnel of agencies which would be involved in rescue and pollution clean-up efforts. He requested all information possible by noon the following day.

Tuesday, April 2nd:

The Como Zoo trucks began transporting ducks from the Serbeskus to the Zoo, where they were re-washed and fed. In two days, they took about 500 ducks. Volunteers came to help the regular staff.

By this time, the rescue crews consisted of about 12 boats and motors, each taking two or three men. The State provided six boats, motors and men, U. S. Fish and Wildlife, two men; the rest were volunteer helpers. Equipment in the boats were gunny sacks for dead ducks and small animals, and nets for the living. One man would control the boat while the others picked the birds out of the water or along the shores. Women and men volunteers came to help wash and dry birds. More men with retrievers were working the shore and inland.

The noon meeting called by Governor Rolvaag adjourned to view the disaster and about three o'clock, the Governor and an entourage of State people, TV men, and newspaper men arrived at the Serbeskus'. There had been a heavy rainstorm earlier and the parking area at the lake was a mess of mud and water holes. The day was gray, cold and windy. Photographers were busy taking pictures of the black oil at the water's edge and the boats coming in with sacks of dead birds to be emptied in an ever-increasing pile in front of the shed. Inside the shed, the pictures were a little more hopeful, maybe because everyone working on live birds felt they were doing something to help. The Governor and his Committee saw ducks which, after repeated washings, still were so oil-coated their wing feathers could not be separated. They moved very little and their beaks sank into the water. Others, though, swam contentedly in the soapy water and resisted attempts to pick them up. The coots showed the greatest resiliency by pecking aggressively without discrimination at humans and ducks alike. The Committee stayed to watch and discuss the problems for two hours, and the Governor promised immediate action.

That night a warning was issued to residents of towns on the Mississippi River south of Lake Pepin that their drinking water supplies may be polluted. Barges broke through the ice at Lake Pepin opening a flow of water and oil down the Mississippi. Possible legal action against the two companies responsible was being considered by the

Minnesota Water Pollution Control Commission. Clarence Prout, State Conservation Department Commissioner, was assigned to coordinate all State activities and to enlist Federal cooperation when necessary. A search was on for more suitable buildings near Hastings, Minnesota, where the Corps of Engineers could put up portable heating units to minimize duck fatalities caused by having to transport bathed wet ducks to permanent quarters.

Wednesday, April 3rd:

Report that 30 of the 300 ducks sent to Como Zoo the night before perished. This ten percent fatality figure tied in with figures from the Carlos Avery Game Farm up to the present time.

Large-scale rescue operations were finally underway. Mike Casey, Regional Game Manager for Southeastern Minnesota, was assigned to direct the work, setting up his headquarters in the Serbesku home and getting a telephone installed. Until now, the nearest phone available was three miles away. Twenty-five boats and motors and seventy-five Conservation Department men were to join the rescuers. Fourteen thousand dollars was appropriated by the Minnesota Executive Council, the entire amount available from the State Calamity Fund. Then the weather struck the final blow.

Temperatures went down to 28° and snow flurries and 45-mile an hour winds all day and night made rescue work by boat too hazardous. Most of the men and boats were called off, but hour after hour chilled men, boys, dogs, walked the shores and inland collecting many dead and 127 live birds, many in bad condition, stiff with cold and oil.

That day a biologist at the State Department suggested we try giving the birds an eye dropper of Karo syrup when washed to restore and sustain energy until moved to permanent quarters. So feeding was added to the routine emergency care.

The Federal people were authorized to use grain, oats, wheat, barley and corn in backwater areas to attract migrating birds away from the oil slicks. However, this has still not been put into effect, fearing that a supply of food may atract flocks of birds which might otherwise fly over the danger areas.

Federal and State Conservation planes flew over the two other danger areas, Lake Pepin and the Weaver bottoms. They saw thousands of ducks and geese and about 1,000 swans. Accumulations of soybean oil were evident on the Minnesota side of the Mississippi in the form of white patches, but it had not reached the refuge area as yet. However, there is no question that the oil will be there soon. The possibility of closing off Lake Pepin with floating log booms and then siphoning off the oil was being studied by the U. S. Army Corps of Engineers. This might cost one hundred to one hundred and fifty thousand dollars which that branch of the Federal Government didn't happen to have. The National Guard Unit was considering a log boom above the three entrances to the Weaver bottoms.

The emulsifier tested for dispersing the oil at Savage, Minnesota, was declared unsuitable.

Thursday, April 4th:

By morning, the wind died down, the sun shone and the twenty-five boats went out to bring in load after load of dead ducks, beaver and muskrat, which couldn't survive the effects of oil and freezing. Only 107 live ducks were found. There were no flights of ducks seen, and it appears that this phase of rescue operations at the Serbeskus will wind up tomorrow.

Seventy-seven men and officers of the Minnesota National Guard, together with amphibious vehicles, boats, trucks, an airplane, a helicopter, set up headquarters at the Hastings Armory to locate oil accumulations and determine the advisability of setting up the floating log booms.

E. Peller

Friday, April 5th:

In the past twenty-four hours, about eight hundred dead ducks piled up in front of the shed. Rescue operations were almost nil. Only fifty live ducks were washed. Of the 127 ducks saved on Thursday, only 50 survived. The first mallards were brought in and we wondered whether the mallard and teal migration would continue past this area or drop to rest and die.

This is Operation Duck Rescue for the first nine days. The list of birds and animals found, alive and dead, is as yet incomplete. The original estimate of eight to ten thousand birds destroyed has been reestimated at ten to twelve thousand. Of those we have washed, the great majority have been the greater and lesser scaups, the "blue bills." One dead loon, our State bird, was picked up on Monday. There were horned and pied billed grebes, herring and ring-billed gulls, ring-necked ducks, bufflehead, ruddy ducks, common goldeneye, wood ducks, hooded and red-breasted mergansers, canvas backs, black ducks, mallards, pintails, blue winged teal, green winged teal and coots. A great blue heron appearing more dead than alive, was bathed and put in "sick-bay," where he lay with his head curled on his wings, completely unable to respond to our solicitous attentions. The next morning, he was walking the basement floor at the Como Zoo, pecking viciously at his rescuers. There were reports of dead cardinals and chipping sparrows covered with oil, but none were brought in.

Of animal life, a deer was seen covered with oil. There are many dead beaver and muskrats. Dead fish are found on shore.

Today, Friday, the sun shines warm, with the temperature in the sixties. There is a gentle breeze swelling the buds of the swaying trees along the shore. The lake is beautiful and empty. My mind repeats the phrase, "The lake is beautiful," and the thought continues, "with promise of spring." I sit on an overturned boat writing, knowing that behind me is a pile of dead ducks and dead beaver. And knowing the promise of spring is a lie here. I am appalled by the silence, and I suddenly realize this has been bothering me since I began washing birds. At one time we would have perhaps two hundred birds in the shed, in cages, in sick bay, being washed and dried. There was never a squawk. It was as though the birds were on silent film. George tells me that at this time every year there are five thousand ducks on the lake, and their squawking fills the air day and night. The rescue operations will continue further down the Mississippi, but spring is doomed here. I wonder whether we will hear the sound of frogs, or if they too are gone.

The long thoughts continue. Minnesota's pollution laws are far too weak. The maximum punishment for breaking the law is $100 fine. In this crisis, governmental action was sincere and concerned, but agonizingly slow in getting started. As I look at the map, it seems as though we might have prevented this tragedy simply. Why didn't we log-boom off the Minnesota River and siphon off the oil before it reached the Mississippi? Since the Mississippi River is a national concern, could we not have a Federal law by which immediate action could be taken to close up any waterway entering the Mississippi when pollution on a danger level is discovered? What might have been a relatively simple operation on the Minnesota River is now so complex and financially difficult that the engineers are still discussing the problem, and the oil continues to flow down the Mississppi.

II. PATH OF POLLUTION PURSUED

Wednesday, April 10th:

Today I took a trip by car from my home to

Belle Plaine, Minnesota, to see the log booms put up by the 682nd Engineer Battalion. My first view of the Minnesota River was at Chaska, Minnesota, about 26 miles by road from Belle Plaine, so I was heading towards the pollution area. The countryside has a quiet, almost forgotten kind of beauty. Spring is not yet here in its lush burst of greenness, but the promise can be seen and felt. The road winds through craggy ravines and low hills covered with willow and birch, maple and oak, sumac and dogwood. The birch and the willow stand out yellow and gray-green with life awakening; the oak, the maple, and the sumac bushes still wear dead reminders of winter. There are far stretches of farmland where farmers are plowing the fields a rich crumbly brown, and around the few, scattered, neat appearing farm houses, the lawns are green. The river is visible only at points where it meets with the road, but it looks more like a beautiful woodland stream than a river. It is hard to believe the river was wide enough in 1861 for Thoreau to take a trip by steamboat through this area to Redwood Falls, Minnesota. The Brewer black birds, the red wing black birds, the meadow lark, the robin, and the flicker are heard singing, and the flicker and the meadow lark fly across the front of my car.

I stopped in Chaska, Minnesota, and Laurie Echo, my collie, and I clambered down the steep rocky bank to inspect the river. The water appeared to have an oily sheen, and the deposits along the rocks were a muddy gray. We found the remains of a blackbird and three large fish, all stiff with oil. From there, we went to Carver, a tiny town not far away, and looked at the river here. It again looked as though it had a slight film of oil. We saw no wildlife, dead or alive, here.

The next stop was at Belle Plaine, where the Army Engineers had just completed blasting part of a hill which was hindering the centrifugal motion of water pouring in the area of the log boom and causing the oil to flow over the logs. I met Major Donald Gregg, Commander of the 682nd Engineers Battalion, in charge of operations here. Company A from Northfield had constructed the boom. They had started operations on Friday, April 5, at Fort Snelling, Minnesota, where the Minnesota River enters the Mississippi. As indicated in the Appendix, this was very experimental, so that even the areas to log boom were not certain. He worked out a plan so that the booms were put across in seven places. Of the seven, three yielded accumulations of oil and will remain. The oil, both soybean and petroleum, was two inches thick and as it accumulated, it was raked on shore. Major Gregg was told it would disintegrate here. He thought it would have been better to bury the accumulation, since if it rains, it will be washed in the stream again.

Major Gregg and Company A moved to the Belle Plaine area on Monday, April 8th. Here the river curves and widens so that the log boom of 350 feet was angled across a stretch of 200 feet of river. They made 30-foot poles from trees at the banks. If this plan seems necessary for some time, these logs will be replaced by cedar logs. I could see the water flowing into this area, with gray oil slicks, which remained in the artificial pool-like concentration. I had not been aware of the oil stench until I came here. Major Gregg said there are two other concentrations of oil where the river curves at Henderson and at Blakely, Minnesota, between Mankato and Belle Plaine. In the three days of work here, they had seen no ducks or eagles. They were leaving the area that day to join Company D at Red Wing on the Mississippi River. Later, the same day:

Met Bill Mehelich, Game Warden for Carver County. He said that when the oil tank had burst at Honeymead Plant in Mankato on January 23rd, the company had pushed the thick, jelly-like soybean oil onto the ice on Blue Earth River, a tributary flowing into the Minnesota. He had seen it here and said it could then have been picked up by heavy machines and trucked away. When the ice melted, the oil in Blue

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Earth River flowed into the Minnesota River. He and another warden went by boat from Mankato to Belle Plaine. The river was full of a thick ribbon of oil pouring downstream. Since the banks of the river are high this year, the oil did not get into the fields nor collect too much in pockets. Because the duck migration had not as yet arrived, he thinks this accounts for the few dead ducks seen.

The wild creatures, the beaver and the muskrat, have been most affected. The beaver trapping season here is from March 23rd to May 5th. The game warden has seen beaver standing on the banks, miserably rubbing their eyes and ears, too sick to get into the water. Trappers, frustrated at the beavers not finding their way into the traps, have been shooting them, which is illegal, and are being brought into court. So an individual who shoots a sick beaver must pay the legal consequences, while Honeymead and Richards Company, responsible for the tragedy, as yet have taken no responsibility nor have been indicted for their criminal carelessness. Mr. Mehelich issued tags for 45 trapped beaver, all of whose skins were covered with oil.

Thursday, April 11th:

Drove to Shakopee, Minnesota, twenty-six miles from Belle Plaine, and ten miles before the Minnesota River enters the area of the Richards Oil Company at Savage, Minnesota. Here the river looked shiny, but there were no strings of soybean oil visible. I saw a dead muskrat and a large fish lying in the water at the shoreline.

At the Richards Oil Company in Savage, there were no officials around, so I spoke to some of the employees and got permission to drive into the area. I was told five hundred gallons of emulsifier has been dumped into a ditch to dissolve the oil, and that two hundred more gallons were ordered. Originally, I had been told by the State Conservation Department that the emulsifier was declared unsuitable. I do not know if this is the same, or if another has been substituted.

I drove along the oil-affected acres and it looked like a countryside in hell. The stench was overpowering. This appeared to have been marshy land, now black from fires and with pools of black oil scattered among the dead grasses. Tree trunks and lower branches were covered with black deposit, while higher up, a few branches with green buds made the picture more ghastly. Flames and smoke were coming from an oil-filled ditch to my right. On my left was a ditch about six feet wide into which the black oil from the fields appeared to be draining.

In front of me was an oil truck to which was attached a pipeline which, I gathered, was for the purpose of pumping oil out of the ditch. It was the lunch hour and no workmen were about. Farther on, the ditch was barricaded with logs, under which apparently was seeping the water from which much of the oil had been removed. It was no longer black in color. At the bank was a drum the size of an oil drum with a faucet on top. The name printed on the drum was the Gamden Oil Spill Products. This was apparently the emulsifier poured in at this point. Here the banks of the ditch were silvery gray and the water was fairly clear. I was told at the office that the emulsifier combined with the oil in the ditch area, making a new product (?) which sank to the bottom, so neither the oil nor the new chemical combination entered the Minnesota River. I began to feel uneasy with my eyes smarting, the smell of burning oil and smoke, and the deadly scene around me. Fancifully, I began to imagine that the spirits of evil in man were congregated here. I have always believed that man has forces for good and for evil, and unlike animals who have not developed a moral need to control evil, is therefore so much more responsible for his actions. Here, today, the evil spirits had won out. Here was taint and pollution, desecration and decay. And death and destruction of our wildlife and our natural resources was continuing. I drove past the ditch and stopped to look at the Minnesota River. In the sunshine, rainbows of colored petroleum oil appeared in patches flowing down the river towards the Mississippi.

Friday, April 12th:

My husband and I had planned some time ago to celebrate our anniversary weekend with a trip down the Mississippi to see the spring migration. Our joy in bird watching was hampered by the need to see for ourselves where concentrations of oil still remained and what methods were being used, or planned to be, to correct it.

At Red Wing, Minnesota, at a boat marina, the soybean and petroleum oil lay thick on the water for several yards out into the river. It was the worst concentration of oil I had seen so far. As we stopped to take snapshots, a man called to us to be sure to send the pictures to the President. Past the marina, the river is controlled by a low concrete wall. Here the water flowing swiftly was full of long, stringy patches of gray soybean oil, as far out as I could see. Where the water had flowed over the wall and onto the ground for about three feet, the surface was sticky enough so that one felt the gluey contact with every step.

Our next stop was at the Armory at Red Wing for information on the log booms. No officers were in, but an enlisted man explained the booms being constructed. They were being set up from Red Wing north for about five miles in the area bordered by the Praire Islands into North and Sturgeon Lakes. The five booms, two of which were completed, were to be called to No Name, Brewer Lake, Hardy Run, Miley Run and Jackson Run. These booms are made of 10" poles, 33' long, staggered and connected together with steel bands. The purpose of these booms is different from the others. Instead of collecting oil, they are stretched along the lakes where the lakes open into the Mississippi. The purpose is to keep the oil in the lakes where it is now lying in pockets and marshy areas. This oil is thus kept from flowing down the Mississippi.

We were told no oil has been evident in the Lake Pepin area or beyond. As we rode along the Mississippi to the Weaver Bottoms, the river sparkled and thousands of lesser scaup and coots were swimming up the river. At the Weaver Bottoms, there were whistling swan, American egret, cormorants, lesser scaup and coots in shallow marshy land and water, and no sign of oil.

We talked by telephone with Donald Gray, Refuge Manager of the Federal Upper Mississippi River Fish and

Wildlife Refuge. He had returned from viewing the river by air that day and saw good size oil slicks from Lake Pepin to Lake City. There was a large number of lesser scaup in Lake Pepin, but they seemed to be avoiding the oil slicks. He had seen a few dried out strings of soybean oil substance hanging from trees around Wabasha, but is sure no oil has come into the refuge. He had seen one great blue heron, four gulls, one, a ring-billed in full plumage, all of which had died of oil pollution. He offered to take us by boat the following day to see the four burlap barriers stretched across the Weaver Bottom area.

Saturday, April 13th:

A beautiful, sunshiny day and a brisk breeze on the Mississippi. We spent three hours in an aluminum boat, moving slowly around the Weaver Bottom area and the river sloughs, then a fast ride up the Mississippi to Alma, Wisconsin, through the river locks, and back again. There was no sign of oil accumulation anywhere, and the trip was memorable, first, because the water was clean, and, secondly, because of the fairy land of beauty on the river, on the sloughs, in the river bottoms, with ducks swimming, startling us by their flight into the air, and the heron rookery with what seemed to be a hundred heron circling above us.

We inspected the four burlap barriers. There was one at the upper end of the river bottoms, and three along the side, where they could each be stretched over about a hundred foot area. The barriers were constructed of chicken wire to which burlap bags were attached. The chicken wire was supported by rope stretched across the river. We saw some branches, leaves, and small accumulations of seed pods which the current had pushed up against the burlap, but there was no oil on the burlap or accumulated in the debris. The barriers appear to be fine as long as the oil doesn't come in. But it is easy to see how quickly the burlap would become saturated with oil, and sink into the water, permitting the oil to pour into the shallow river bottoms. A considerable number of the National Guard would need to be on duty around the clock to change the burlap, and I cannot see how that could be accomplished without the oil getting through during the changing process.

Later That Day

Back up the river to Spring Lake and a visit with the Serbeskus. There are no ducks on the lake, and a thick soybean oil deposit goes out several feet in depth along the shore line. It was good to hear that our lone great blue heron rescued the week before was still doing very well at Como Zoo in St. Paul, Minnesota.

Sunday, April 14th:

To the Carlos Avery State Wildlife Refuge and Game Farm near Forest Lake, Minnesota, to see the rescued ducks. We arrived too late to see the greater number at the Game Farm, but at the Refuge about one hundred and sixty ducks were sunning outside in a wire enclosure attached to a barn. Most of the ducks appeared to be lively, but their feathers were still stiff with oil. We were told that those that had been washed again had died of pneumonia. Two or three ducks were still dying every day. Up to the present time, about 30 percent of the ducks had perished.

Here my journey ends. But death, unnecessary death will continue. I see the wood duck in flight and I wonder if they have nested in a tree by the water's edge, and when the babies are ready for their first swim, they will follow their mother to the slimy shore and struggle and die. I wonder how many of our shrinking population of bald eagles will drop from the sky to pick up an oil-soaked fish or duck and die of this meal. I hope, as the warm weather comes, that along the six or seven hundred miles of shoreline of river and lake affected, such a stench arises from the oil pollution and the wildlife decay, that men and women and children will recoil in horror from the stink in their nostrils, and stinging in their eyes, and the poisonous taste of the waters, so that all their sense will know the meaning of water pollution. Then, perhaps, they will insist that proper measures be taken now, and that laws, both Federal and State, be strong enough to halt pollution at its onset.

WHOSE FAULT IS IT, AND WHOSE RESPONSIBILITY

There is no doubt in my mind about the criminal negligence of the companies involved. Theirs was the initial responsibility. But from the time the first tank burst on December 15, 1962, until the ice broke in March, 1963, the law enforcement agencies involved closed their collective eyes and failed to take corrective measures. If our Minnesota pollution laws are weak and provide only a $100 penalty, why did not the State Conservation Department realize measures would have to be taken and start coordinating the Army, the Health Departments and the Attorney General's office so that the oil could be taken off the frozen ice? If the oil had drained into the Minnesota River through springs, then booms could be ready and di siphoned out when the ice broke and before the oil reached the Mississippi. Why has the U. S. Fish and Wildlife Servic assumed this is only a State problem? They were represented at only one conference called by the Governor on April 1, 1963. I was told no one from their offices in Washington, D. C., has been here to see the problem. Are they so busy acquiring wet lands and bringing poachers into court that they cannot be bothered? When I have questioned top officials of both the State Conservation Department and the U. S. Fish and Wildlife in this area, the answers are evasive and liberally dispersed with "I don't know." I was asked by one official if I was preparing a "white paper." What are they afraid of? Are their positions so tenuous? Are they fearful of "big business"? Have they been told that if the State government is tough on business, we will get no new industries from outside the State and that our own will leave? I do not like to place guilt and irresponsibility on agencies for which I have had great respect. I know they have done and are doing a fine job in their research, their refuges, their dedication to specific projects, and the training, caliber, and personal integrity of their personnel. But this, I feel, after three weeks of investigation, that the problem of oil pollution was improperly handled and is still not corrected;

that top officials are uncomfortable about discussing it; and that I do not know the reason behind it.

Lincoln observed, "The sin of silence when they should be heard makes cowards out of men."

* * *

APPENDIX

Since so much of the information given out by the newspapers on the oil pollution problem has been garbled, and in order to see the day-by-day developments more clearly, here are some of the facts, re-checked as to accuracy.

Date Oil Tanks Burst:

December 15, 1962	Richards Oil Company, Savage, Minnesota
January 23, 1963	Honeymead Food Products Company, Mankato, Minnesota

E. Peller

Report of Oil Piled Up On Ice to U. S. Fish and Wildlife Service and to State Conservation Department

December 1962 by Game Warden Ernie Boyd

February 1963 by Gerry Liemandt, State Game Warden,
Minnetonka Game Refuge

January 20, 1963

Minnesota Department of Health men sent to Savage Plant and ordered them to control flow of oil.

February 1963

Federal Government stopped dumping into Blue Earth River. Oil dumped on farmers' land nearby. (Department of Interior, News Release 5634.)

March 28 - April 5, 1963

Operation Duck Rescue at Serbesku's at Spring Lake, Minnesota.

April 5-6-7, 1963

682 Engineers Battalion set seven log booms at Ft. Snelling where Minnesota River flows into Mississippi. Four collected no oil, dismantled. Others, accumulations two inches thick, raked out.

E. Peller

April 6 and 7, 1963

Four burlap and chicken wire barriers set up by Army Engineer above Red Wing and at Weaver River Bottoms entrances.

April 8-9-10, 1963

Army Engineers moved onto Minnesota River and set up log booms at Belle Plaine, Minnesota. Accumulation less here, other accumulations of oil seen at Henderson, Blakely and Savage.

April 11, 1963

682 Engineers Battalion joined National Guard at Red Wing, Minnesota, to help in completing the five log booms set up along lakes bordering Mississippi five miles north of Red Wing. Writer saw oil still flowing from Richards Oil Company into Minnesota River.

April 13, 1963

Writer saw thick accumulation of oil along shores at Red Wing, Minnesota, and at Spring Lake, Minnesota.

April 14, 1963

Of the fifteen hundred ducks washed, it was estimated that between thirty and fifty percent had died or were dying.

Governor's conference with U. S. Public Health officials and tentative plan to spray polluted areas with an absorbent powder to combine with soybean oil to make it settle to bottom of lake. Experimental area, Spring Lake.

April 15, 1963

Wind too strong, experiment delayed.

April 16, 1963

Governor believes work of National Guard completed. Further efforts will be made with Public Health and Conservation people.

AREA INVOLVED IN TERMS OF RIVER MILES

Minnesota River	River Miles
From Mankato to Belle Plaine	57.1
Belle Plaine to Savage	36.2
Savage to Ft. Snelling	14.3
Mississippi River	
From Ft. Snelling to Hastings	31.8
Hastings to Red Wing	23.1
Red Wing to Weaver	20.0

Past Weaver - no one knows how far and when.

LAKES AND ISLANDS ON THE MISSISSIPPI STILL BADLY CONTAMINATED WITH OIL

Lower Gray Cloud Island
Grey Cloud Island
Spring Lake
River Lake
Baldwin Lake
Prairie Islands
Moore Lake
North Lake
Sturgeon Lake

CONTROL METHODS USED

I had wondered why there wasn't a simple method known to control oil pollution on rivers. Major Donald Gregg tells me there is no literature on the subject, that there never has been this type of disaster in this country, so every solution attempted was experimental. They did not know whether the petroleum (Richards Company) or the soybean oil (Honeymead) would rise to the surface. On Saturday, April 6th, he drew up a jar of water (8") from a boat marina on the Mississippi River in Minneapolis. The first inch contained the red petroleum oil, the next three inches were gray soybean oil, and the balance, water.

E. Peller

There were three experiments to control the oil. They tried stretching chicken wire laden with straw across a part of the Mississippi, hoping the straw would absorb the oil. This was unsuccessful. Secondly, a dam was floated two miles above Red Wing, Minnesota, by using two steel cables, one 4" above the water, the other 18" below, with burlap bags attached and at intervals, empty oil drums. Oil stopped by the bags was then raked onto the shore. However, the burlap became saturated and the labor of changing the bags frequently made this plan ineffectual. The third method was the log boom, originated by Major Gregg. Here heavy rope and steel cable are stretched across the river, supporting logs. It was discovered there was no need to stop the flow of water from the surface down 18". A single log's diameter was wide enough to control the surface oil into a pool-like concentration while the water flowed swiftly underneath. This oil could then be diverted to the shore.

* * *

E. Peller

UNITED STATES DEPARTMENT OF THE INTERIOR

NEWS RELEASE

OFFICE OF THE SECRETARY Rettie - Interior 5634

For Release APRIL 20, 1963

INTERIOR DEPARTMENT STUDIES EFFECTS OF MISSISSIPPI RIVER OIL POLLUTION ON WILDLIFE

Secretary of the Interior Stewart L. Udall said today his Department is making intensive efforts to pinpoint the immediate and long-term effects of serious pollution on the Mississippi and Minnesota rivers that already has killed at least 2,000 waterfowl, plus an undetermined number of fish, beavers, muskrats, and other wildlife.

Studies underway, Secretary Udall said, will assist in determining whether there will be further danger to fish and other aquatic life from depleted oxygen levels in backwater areas when oil, which has been responsible for the pollution crisis, oxidizes during the warm summer months.

The problem began last December 9 when an oil pipeline broke at the Richards Oil Company storage facilities in Savage, Minn., southwest of Minneapolis and St. Paul, dumping about 1,400,000 gallons of crude oil into a marshy impoundment on the south bank of the Minnesota River, about five miles above its confluence with the Mississippi. Cold weather temporarily confined the oil.

Six weeks later, a 3,000,000-gallon soy bean oil tank owned by the Honeymead Food Products Company in Mankato, Minn., farther southwest of the Twin Cities area, burst and spread oil over city streets and surrounding land to depths of three feet. Disposal of the oil by dumping into the Blue Earth River was halted by the Federal Government. Efforts then were made to dispose of it in a ravine on a private farm six miles south of Mankato.

However, the oil from the ravine seeped into a nearby creek, then into the Blue Earth River, to the Minnesota River, and finally, with warming weather, into the Mississippi itself.

Meanwhile, warmer weather freed the crude oil near Savage, and by the last week in March both the soy bean oil and crude oil were draining into the Minnesota and Mississippi rivers. Federal, State, and local officials concentrated remedial actions at Spring Lake -- a backwater area where large numbers of migrating waterfowl stop.

On April 1, Federal wildlife officials attempted a large-scale baiting operation to keep the migrating waterfowl from the deadly contaminated water. They were only partly successful. Despite the efforts of dozens of volunteer citizens working day and night in "Operation Duck Rescue" -- trying to clean and keep alive hundreds of dying oil-soaked ducks -- Federal officials now estimate that as many as 2,000 ducks were killed by the oil.

In announcing Department of the Interior efforts to find out the answers to questions about future effects of the pollution, Secretary Udall noted that the oil slick is now beginning to disperse and oxidize. This is a long, slow process -- roughly comparable to the organic breakdown of sewage in a treatment plant.

Attorneys of the Department also are studying the conditions that led to the pollution problem, Secretary Udall said.

"The possibility of large-scale river pollution from oil storage tanks, pipelines, and other similar facilities is of great concern to us in the Department of the Interior," Secretary Udall said, "especially as such pollution may endanger parts of the National Wildlife Refuge system and vast areas of the Nation's water areas. We believe such incidents are preventable."

"We have an obligation to protect fully the national interest in such cases of large scale pollution," he added. "If this disaster had struck in a waterfowl wintering area, the entire resource of the Mississippi Flyway could have been endangered."

Conferences already have been held among representatives of the Department of the Interior, Minnesota State officials, and U. S. Public Health Service representatives to develop possible measures for preventing similar incidents in the future. These include safety devices on oil-storage tanks, revetments and dikes around storage areas, improved skimming devices for removing oil from water surfaces, and zoning arrangements on river flood plains.

Secretary Udall said the Department's Fish and Wildlife Service laboratory at La Crosse, Wis., is speeding its studies of the pollution. The laboratory is operated by the Service's Bureau of Sport Fisheries and Wildlife.

Department biologists noted that the heroic rescue efforts to save the oil soaked ducks were made against staggering odds. Cleaning of the ducks robs them of vital oils needed to keep them afloat and warm. When the natural oils are removed, the ducks are vulnerable for several weeks.

* * *

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Industrial Pollution Shows Indifference to Public Interest 1 * * *

INDUSTRIAL POLLUTION SHOWS INDIFFERENCE TO PUBLIC INTEREST

In the May 15 issue of CONSERVATION NEWS we described in detail an oil spill on the Minnesota River near the Twin Cities in Minnesota which eventually was carried down the Mississippi. A bursting storage tank and a leaking tank farm pipe allowed 1,400,000 gallons of petroleum and 3,000,000 gallons of soybean oil to spew out into the Minnesota River. Cold weather kept the full effects from becoming apparent until the ice went out and the oil was carried into and down the Mississippi.

The story of an estimated 10,000 ducks being caught in the oil was the subject of nationwide reporting through all popular media. Pictures of dead, oil-coated ducks were widely circularized. It was a sad but dramatic story, and emphasized how ineptly we continue to take care of our material blessings.

Gov. Rolvaag of Minnesota immediately took action, and calls for help quickly reached the National Capital for emergency measures by way of manpower and money. But the tiger was already loose and no one was quite sure how to get it back in the cage. Recriminations, which are understandable at such times, did not evaporate the oil, nor even develop future preventatives. Certainly the oil spillage was not deliberate, but it was the result of a serious degree of negligence.

According to Interior Secretary Udall, studies now under way will assist in determining whether there will be further damage to fish and other aquatic life, especially oxygen depletion as the oil oxidizes in the backwaters during the summer months.

One concern of the Department of the Interior -- and rightly so -- is what effect the oil may have on the Upper Mississippi National Wildlife Refuge, which extends for 300 miles along the Mississippi.

Secretary Udall further commented: "We have an obligation to protect fully the national interest in such cases of large scale pollution. If this disaster had struck in a waterfowl wintering area, the entire resource of the Mississippi Flyway could have been endangered."

If improved pollution laws, measures of safety, etc., result from this disaster, there may be some beneficial results. This incident of ducks dying and the general damage occurring from oil pollution, as said before, was sufficiently dramatic to capture national attention. But dramatics of this type are a poor substitute for conservation. Successful resource management results from sober, intelligent continuity of program, which too often does not hit the headlines.

What is not apparent to the rank and file of people are the various types of pollution which from day to day, week to week, month to month, and year to year corrode and destroy aesthetic and economic resources before the eyes of an indifferent public.

In 1962 an exhaustive and comprehensive report was issued entitled "Pollution of the Navigable Waters of the Detroit River and Lake Erie and Their Tributaries within the State of Michigan." Its damning evidence should make any thoughtful citizen hang his head in shame.

The Detroit River, which empties into Lake Erie and borders Michigan and Canada, has developed into a chronic fester of filth and pollution. Possibly it is one of those cases so persistent that people finally become discouraged and lackadaisical. This entire region was once ideal habitat for waterfowl. They traversed it in uncounted numbers.

The lower west bank of the river was developed for industrial purposes. The resulting effluent warmed the river and kept it open. As a result ducks lingered after the normal freeze-up.

As far back as 1941, the general region was recognized as a special problem area, with the increasing filth of the river spreading into the marshes of Lake Erie.

In 1948 there was an estimated minimum loss of 10,000 birds. In succeeding years the recorded losses were not as high. In 1960 there was another loss of 12,000 birds. The report states that, regardless of associated complications, oil flows constituted a serious factor. There was also grease, fats and various oil compounds from domestic sewage.

A study made in 1946-48 by an International Joint Commission disclosed that an average of 16,280 gallons of oil was dumped into the river every day, and that although this had been reduced, oil was still a problem.

The first serious duck losses due to botulism east of the Mississippi were found in 1941 on the Raisin River which flows into Lake Erie. There were heavy loads of paper mill waste in the river. The outbreak spread to the marshes of Maumee Bay. Here another 10,000 ducks were killed by the disease. Decomposing organic matters dumped into the Raisin River was the principal factor. A smaller outbreak of botulism occurred in 1942. Again in 1948 a heavy oil spill caused the phosphorous poisoning of many diving ducks in the Detroit River area.

The report makes this observation: The Detroit River-Lake Erie waters serve as a vast area of natural wildlife habitat and as a vast area for public recreation. The quality of this water is very important, both for people and for the various forms of fish and wildlife which are dependent on it. In looking to the future we have two clear-cut and opposing choices: (1) permit the Detroit

River to degenerate to a situation like that which exists on the Rouge, or (2) employ technical skills to meet the pollution problems and adequately enforce abatement regulations to provide for the multiple use of these waters.

The Detroit River problem so far as oil pollution is concerned is of much longer duration and has had more insidious effects than the oil dumpage on the Mississippi of this past winter. But to a greater or lesser degree there have been many examples of such pollution throughout the nation for many years which have gradually eroded away the wildlife and recreational values.

In a speech nearly thirty years ago, the dynamic "Ding" Darling spoke his mind on the subject: "There isn't a salmon run in any river on the Atlantic coast in the United States to speak of any more. The shad are rapidly disappearing. The Hudson River, once carrying a great myriad of sturgeon, is as sterile as the Connecticut River. The Great Lakes, once the greatest reservoir of food supply, fresh water and aquatic food resources, gone; ... the Pacific Coast rivers of the United States no longer carry their vaunted run of salmon ... Now maybe you don't like fish. That's about all the Chinese have left. They have used up their soil, and if they can't get anything from the water they just starve, that's all."

Another recent issue of debate is an oil refinery in the vicinity of Biscayne Bay, Florida. Interior Secretary Udall and the Army Engineers have entered the controversy and are taking a careful look at the situation. Fear of oil spillage and the destruction of the biological community which supports world-advertised sea fishing is one of the big dangers.

Many local controversies have resulted when large corporations plan installations which have a potential to destroy wildlife habitat or recreational use. These often occur along a river flat, a marsh which is to be filled in, a hill which must be denuded of trees.

Administrative heads of these corporations are often excused for lack of biological knowledge, but it is usually some lay group of citizens that exert a militant opposition, and their rank and file are certainly not trained biologists.

If the man on the street can sense potential danger, it is inexcusable for a chairman of a board to plead ignorance. It is also often stated that engineers receive no biological training, but why should they be exonerated for looking only through one knot hole? If the butcher and baker can visualize destruction, the engineer cannot plead innocent.

It is true that laymen groups obtain the services of wildlife specilists, but so could the corporations before they extend their plans. Such arguments do not hold water. If corporations are smart enough to employ the technical advice of engineers, it would appear that their failure to employ biologists is nothing more than indifference to the general public interest.

Credit the man on the street for many of the battles which have been won. However, he is winning too few. How many oil spills must occur, how many ducks and fish must die, before the tide on such carelessness and indifference begins to ebb? -- ERNEST SWIFT

* * *

Bills aimed at preventing reoccurrence of pollution of state waters from accidental or intentional discharge of stored liquids have been introduced in both houses of the Minnesota legislature. Authors of the bill in the house, H. F. 1907, are Representatives Barr and Grussing. The Senate bill, S. F. 1783, is authored by Senator Patterson.

The bills state that every liquid substance stored at a place where it would pollute any waters of the state if it should escape from confinement is hereby declared to be a dangerous instrumentality."

Owners of such liquids and owners of the storage facilities are made jointly and severally liable in full damage to the state or its political subdivisions for all expenses incurred in preventing escaped substances from polluting any waters of the state and in removing such substances from the water or in confining the spread of pollution. The bill is designed to stimulate the construction of dikes and impoundments around storage tanks and for other safeguards to prevent the spread of polluting substances into waters of the Minnesota.)

* * *

MR. STEIN: Thank you.

Are there any other people?

MR. WILSON: Mr. Chairman, I would just like to add to the comments that Dr. Hargraves made.

In regard to the desire of the Commission to provide everyone with the fullest possible information and to take all the action it can in the exercise of all the powers that are given to it, I made some comments a while ago upon the legal provisions applicable to enforcement in those cases previously reported to the Commission.

Under the Rosenmeier Act, which was signed by the Governor on May 27, 1963, after these incidents had occurred, and which necessarily cannot be retroactive as to any events theretofore committed, the Commission will have stronger powers on standards adopted under that Act.

The Commission has not yet adopted any standards under the Rosenmeier Act. The standards that we have been talking about were adopted under the old law after hearings the preceding year, and when we get to the point of adopting standards under the Rosenmeier Act, then we are going to be in a much stronger position with respect to both criminal enforcement and enforcement of the procedures under the Water Pollution Control Act.

These questions are somewhat complicated. I have told a number of people here that I would be glad to sit down and discuss with them the possibility of future action, but I think all we have time to say here and now is that it is definitely the intention of the committee to exercise whatever powers the legislature gives it to the fullest possible extent.

MR. STEIN: Thank you.

Mr. Smith?

MR. SMITH: I have several other statements that I would like to present.

MR. STEIN: Do you want to read them or just put them into the record?

MR. SMITH: No, I don't believe I will read them. Under "Industrial Waste Sources" as listed in the Minnesota agenda, if the reporter would put into the record the description of the industrial waste facilities at those places, for which I do not present material now, this will take care of that portion.

MR. STEIN: That has been agreed to.

MR. SMITH: The first statement I have is from the Honeymead Products Company, and I would like to present that.

MR. STEIN: Just for the record, without reading it at this time?

MR. SMITH: For the record.

(The statement presented by the Honeymead Products Company is as follows:

HONEYMEAD PRODUCTS COMPANY
TELEPHONE: 7911 TELETYPE: 541
MANKATO, MINNESOTA

January 31, 1964

To the Minnesota, Wisconsin Conference on Inter-State Pollution of the Mississippi River

Re: The Mankato Soybean Oil Flood

Gentlemen:

At 9:00 A.M. on the morning of January 23, 1963 things were normal at the Honeymead Products Company Mankato Plant. A few minutes later the area was flooded with millions of gallons of soybean oil. The flood resulted from an explosion of a very large soybean oil storage tank. The ruptured tank, with a capacity of 440 tank cars or about 3,500,000 gallons, instantaneously released a flood of oil with such force as to demolish plant buildings and disrupt our incoming high voltage power lines, thereby shutting down the plant. Railroad box cars and tank cars, some of them loaded, were pushed helter skelter from their positions on plant sites. One of the box cars loaded with 120 full drums came to rest in the middle of the Blue Earth River some hundreds of feet from the ruptured tank. Tangled railroad tracks were carried with the cars. The temperature on this twenty-third of January was 21° below 0. The flood of oil covered the plant area and the neighborhood for several blocks around. The ice of the adjacent Blue Earth River was also covered by the flood. Low temperatures caused the oil to congeal to a lard-like consistency. Accumulations of solidified oil to a depth of three feet existed in the plant area.

By the middle of the afternoon of January 23 we had a temporary limited electric power supply to the plant. The boiler room equipment was the first to be activated after electric power was restored. The availability of steam allowed us to proceed with the cleanup plan that had been worked out during the day. The simple plan was to establish melting pits in which the solidified oil would be melted by heat from steam coils. The liquid oil would be pumped from the melting pits to tank cars. Our plant production crews were organized into around the clock cleanup crews. Outside contractors were integrated into the cleanup crews to supply specialists such as electricians, pipe fitters, welders, etc., as well as equipment such as dump trucks, bulldozers, front end loaders, pumps and hoisting equipment.

We had planned to load congealed oil from the river ice into dump trucks and haul it up the river bank to the melting pits. A heavy bull dozer broke through the ice and we were not able to find a slope up the river bank that the trucks could negotiate. We then established two melting pits and pumping stations at the base of the river bank. Light weight front end loaders were lowered to the river ice. The front end loaders cleared the river ice of congealed oil, disposing of the loads into the two melting pits.

The cleanup campaign continued 24 hours a day for weeks until all of the debris had been picked up. About 120 tank cars were recovered and loaded in this cleanup period.

Meetings between company officials and

Governmental Agencies, Federal, State and Local on various phases of the disaster have been held. Many meetings have been held with personnel of the State Water Pollution Control Commission, first in relation to cleanup problems and then regarding means of reducing possibilities of future disasters.

As a result of these meetings, the company has adopted the policy of building smaller oil storage units. We are presently working with the commission on the engineering of a dike system to contain the results of a tank rupture should it ever occur.

Many attending the conference are quite familiar with the story of the exploding soybean oil storage tanks at Mankato. It seems there were quantities of misinformation as well as information dissimulated concerning this well publicized event. This first-hand summary is offered as being of possible interest to many attending this conference.

Respectfully,
George N. Walker
Vice President and Plants Manager)

* * *

MR. SMITH: I have a statement from Northwestern

Refining Company, which I am presenting.

(The statement from Northwestern Refining Company is as follows:

NORTHWESTERN REFINING CO.
POST OFFICE BOX 248
SAINT PAUL PARK, MINNESOTA

REFINERIES:
ST. PAUL PARK, MINN.
NEW BRIGHTON, MINN.

February 5, 1964

Robert N. Barr, M.D., Secretary
Water Pollution Control Commission
State of Minnesota
Minnesota Department of Health Building
University Campus
Minneapolis, Minnesota

Northwestern Refining Co. operates a modern petroleum refinery on the east bank of the Mississippi River approximately ten miles below St. Paul, Minnesota.

Northwestern Refining Co. began its operation in 1939 and has always maintained a position of utmost cooperation with the Minnesota State Board of Health and the Minnesota Water Pollution Control Commission. Since 1939 the company has made a constant and progressive effort to improve waste water treatment facilities and to maintain these facilities at an efficient level. The facilities at Northwestern Refining Co. are considered to be entirely adequate for the treatment of the refinery effluent. This effluent is tested periodically and such tests indicate that its purity is well within the limits specified by the Minnesota State Board of Health.

Northwestern Refining Co.'s policy of cooperation with the Minnesota State Board of Health and the Minnesota Water Pollution Control Commission will be extended to the United States Public Health Service in its survey of pollution of the Mississippi River.)

* * *

MR. SMITH: I have next a statement from the St. Paul Ammonia Products, Inc.

(The statement from the St. Paul Ammonia Products, Inc., is as follows:

ST. PAUL AMMONIA PRODUCTS, INC.
P.O. BOX 418
SOUTH ST. PAUL, MINNESOTA
February 6, 1964

Conferees

February 7, 1964 Conference re Interstate Pollution
of Mississippi River

State Office Building

St. Paul, Minnesota

Gentlemen:

At the request of the Minnesota Water Pollution Control Commission we have been asked to comment briefly on what we have done and what we propose to do toward abatement of pollution of the Mississippi River.

Our contribution to pollution of the river consists only of the discharge of chemical waste products. No domestic type sewage of any kind is discharged to the river. Because of other necessary regulations we are left with no other practical method for the disposal of our chemical waste effluent except to discharge it into the Mississippi River. It is therefore essential to our continuing operation to be allowed to proceed with disposal of our chemical waste products in this manner.

From the start-up of our operation we have cooperatively worked with staff members of the Section of Water Pollution Control, Department of Health in matters such as methods of chemical analyses to be certain of accurate and acceptable information, type of reported data, frequency of reporting, sampling points, special sampling, changes in types of chemical wastes due to modifications in process methods, etc. We have in the past purchased and installed costly equipment with the sole purpose of reducing quantity of chemical wastes We submit to the Minnesota Water Pollution Control Commission on a monthly basis a daily accounting of flows and chemical concentrations in our waste water effluent. Included in our report is information on the analysis of Mississippi River water collected upstream and downstream from the point at which our chemical waste effluent enters the river. We collect and analyze these samples for ammonia content on a voluntary basis so that we have additional information to make a realistic evaluation of the effect of our effluent on the river water for the purpose of pollution control.

It is not our policy to discharge specific chemical contaminates up to the limit of the quantities set forth in our waste disposal permit. We are continually looking for practical ways to decrease these quantities or eliminate them entirely. As an example of the quantity of reduction of chemical waste now being sent to the river our records will show that for last year we discharged only approximately 32% of the quantity of dissolved solids that originally were intended when applying for our waste disposal permit.

We believe it is apparent through demonstration that we have definitely been interested and cooperative in decreasing and controlling pollution of the Mississippi by discharge of our chemical and waste water effluent into the river. As in the past, we will continue to work along feasible lines which will aid in further pollution abatement.

Yours very truly,

ST. PAUL AMMONIA PRODUCTS, INC.

/s/ Kenneth B. Knox

Plant Manager)

* * *

MR. SMITH: I also have a statement from the Great Northern Oil Company.

(The statement from the Great Northern Oil Company is as follows:

DEPARTMENT OF HEALTH, EDUCATION AND WELFARE
SPONSORED POLLUTION CONTROL CONFERENCE

STATEMENT OF GREAT NORTHERN OIL COMPANY

TO: The Honorable Anthony Celebrezze, Secretary of Health, Education and Welfare, and Murray Stein, Chief of the

Enforcement Branch of the Division of Water Supply and Pollution Control of the U. S. Public Health Service, and designated conferees.

Robert N. Barr, M.D., Secretary of the Water Pollution Control Commission of the State of Minnesota, has requested the Great Northern Oil Company to submit a statement for submission to you for your consideration at the forthcoming conference on pollution of the Mississippi River from the Rum River downstream through Lake Pepin. In reply to said request, the Great Northern Oil Company respectfully submits the following statement:

Great Northern Oil Company operates a modern petroleum refinery in the Pine Bend area approximately ten miles south of South St. Paul, Minnesota. Use is made of the Mississippi River to receive about 700 gpm of treated refinery waste water. This company, since it commenced operation, has worked closely and cooperated to the utmost with the State Department of Health and Water Pollution Control Commission of Minnesota. It is now the position of the company and always has been during its entire history that it has never contributed to the pollution of the Mississippi River and that its standards of waste water which is received by the river have always been higher than the minimum standards required.

The Great Northern Oil Company's position in this respect can best be substantiated by a brief description of its operations and its waste disposal facilities as follows:

The treatment of waste water at the refinery includes oil separators, lagoons, two stages of biological oxidation and a large final lagoon (see attached sketch). The treated water quality exceeds the W.P.C. Commission requirements in every respect and in no way does it compromise the section 3 river quality standards recently used by the Commission.

The refinery, situated about 1/4 mile from the river, was built in 1954-1955 and expanded in 1963. At today's capacity of about 50,000 BOD, the refinery processes include crude distillation, catalytic cracking, hydrodesulfurization, reforming, alkylation, catalytic polymerization, and residual oil coking. Two sulfur plants produce liquid sulfur from waste gases.

Refinery water use and waste water treatment follow the most modern practices known to the industry. Cooling water, initially drawn from wells, is treated and then recirculated through process coolers and over cooling towers for water conservation purposes.

Steam condensate from the cracking process is acid treated, steam stripped and subjected to biological oxidation of the phenols in the latest design of a plast filled Trickling Filter.

Oily water is collected in a separate sewer for distribution to an oil gravity-type separator. A series of lagoons and a hay filter then remove traces of oil but the water goes to the Activated Sludge unit for final polishing of phenols, oil, and BOD.

The final lagoon has the capacity of storing several weeks flow of treated water.

Recent projects included a coker blowdown system which aids oil recovery and air pollution control. We have contracted a project to install a new lagoon pump and protective run-off line. Studies are being completed this year on a new, original process to remove sulfide from refinery waste water.

Our personnel are active in the nation-wide water pollution control projects sponsored by the American Petroleum Institute. A group of ORSANCO members visited our waste disposal facilities last spring with many favorable comments.

The annual operating costs for equipment directly related to air and water pollution control is in excess of $300,000.

Barge loading and unloading facilities are in the form of a dredged harbor on the west bank of the

Mississippi just east northeast of the refinery site. The harbor is used for unloading and loading during the months of ice-free water. During the winter months the harbor is used only to load products destined for customers between the refinery and Saint Paul.

All possible mechanical and procedural safeguards are utilized to avoid spillage during loading or unloading operations. Drain pans under valves catch any drip that may develop when unhooking loading lines. These pans drain into tanks and these are pumped into trucks for return to the refinery.

As a further precaution, a floating styrofoam "slick bar" isolates the harbor from the river. In addition, a second "slick bar" is maintained around the barge being loaded or unloaded. The "slick bar" is equipped with a stiff plastic weir that extends vertically below the surface of the water. With the bar on top and weir below water, a barrier for floating materials lighter than water is constantly maintained. Thus if an accident (such as a hose rupture) should occur, spillage can be contained within the harbor and recovered without escape into the river stream.

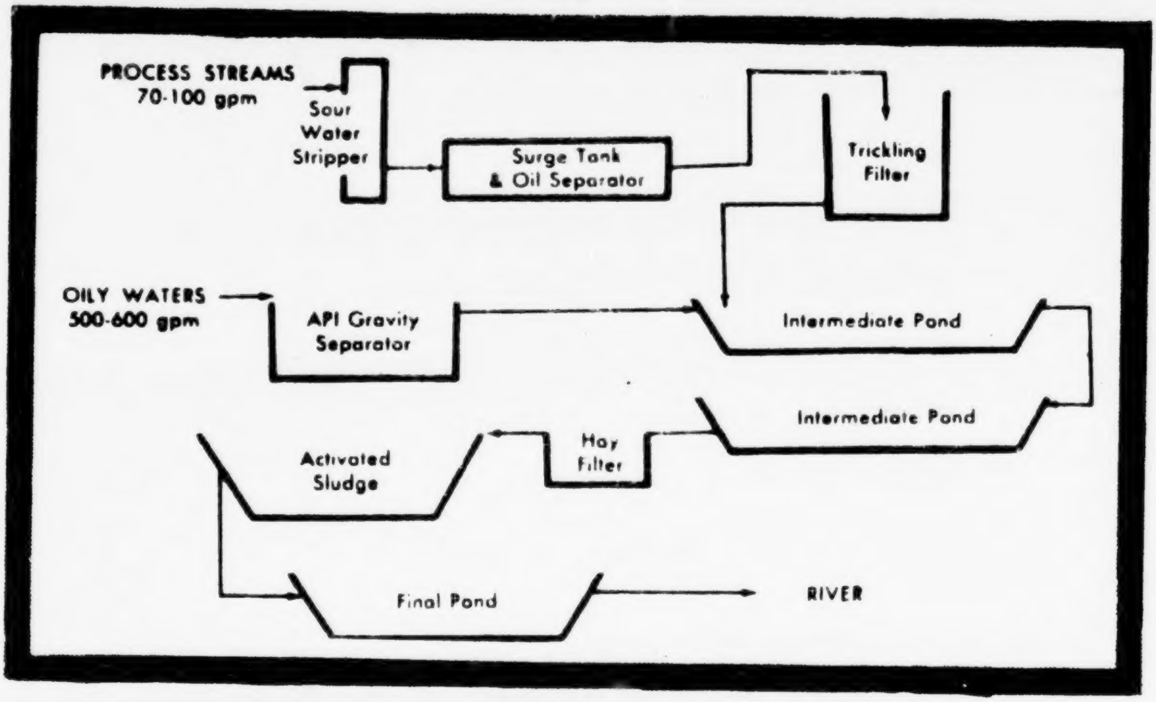
The U. S. Coast Guard and other governmental agencies inspect these harbor facilities several times per year.

The industry is determined to employ its efforts and its money toward the solution of real pollution problems; it will strive with equal vigor to avoid unnecessary and ineffective expenditures. Willingness to cooperate, with determination to be effective, is the industry's position.

In conclusion, we wish to stress the fact that no domestic sewage from the Great Northern Oil Company is received by the Mississippi River in any form and that our company intends to continue to cooperate in any way with all agencies of the State of Minnesota and our Federal government in eliminating and solving pollution problems of the public waters of our state.

February 6, 1964)

* * *


PROCESS STREAMS
70-100 gpm
Sour Water Stripper
Surge Tank & Oil Separator
Trickling Filter
OILY WATERS
500-600 gpm
API Gravity Separator
Intermediate Pond
Intermediate Pond
Hay Filter
Activated Sludge
Final Pond
RIVER

Waste-water flow through treatment system

MR. SMITH: I have a statement from Minnesota Mining and Manufacturing Company.

(The statement from the Minnesota Mining and Manufacturing Company is as follows:

STATEMENT REGARDING POLLUTION ABATEMENT PROGRAM, MINNESOTA MINING AND MANUFACTURING COMPANY, CHEMOLITE PLANT, WASHINGTON COUNTY, MINNESOTA, BEFORE THE CONFERENCE CONCERNING INTERSTATE POLLUTION OF THE UPPER MISSISSIPPI RIVER

February 7, 1964

Minnesota Mining and Manufacturing Company (3M) has traditionally taken an active part in the programs that have been established to control the pollution of our national natural water resources. Recognizing that the conservation of these resources is the vital responsibility of all individuals, 3M has established water pollution control programs at all of its plants wherever a water pollution problem is involved throughout the United States and abroad.

To illustrate this interest in water pollution control work 3M has been an industry member of the Ohio River Valley Water Sanitation Commission (ORSANCO) and has actively participated by serving on the Chemical Industry

Committee -- Advisory to ORSANCO for the past 10 years. In 1963 two of the 3M plants located in the Ohio River Basin received the Replica of the "Outstanding Civil Engineering Achievement" awarded to ORSANCO by the American Society of Civil Engineers for their excellent accomplishment in the Ohio River Valley in curbing water pollution.

A Water and Sanitary Engineering Department with a staff of specially trained professional engineers has been established within the company for several years. These engineers devote full time to the development and engineering of water treatment and waste water pollution control programs for various company plants.

The 3M Company plant, located on the section of the Mississippi River under consideration in this conference, is known as the Chemolite plant. It is located in Cottage Grove Township in southern Washington County on the north bank of the Mississippi River. The plant is approximately three miles above the Lock and Dam No. 2 at Hastings, Minnesota.

The company has been active in pollution control ever since the Chemolite plant began operations in 1947. The process waste water was first discharged to holding ponds constructed prior to 1950. In 1955 waste water from Chemolite, after being treated in a skimming and settling tank and an oxidation pond, was discharged into the

Mississippi River. The sanitary sewage has always been segregated from the process waste and treated separately.

In 1962 new additional waste treatment facilities were constructed to expand and modify the existing facilities. These facilities, which are presently being used, consist of skimming and settling tanks, sludge settling tanks, oxidation ponds, neutralization facilities, and necessary pumping and piping appurtenances. Plans and specifications for construction of these facilities were approved by the Minnesota Water Pollution Control Commission before they were constructed. The facilities were put into operation in March, 1963.

During the past three years more than 3/4 million dollars was invested by the company in abating water pollution at the Chemolite plant. In addition to this capital investment, at least $60,000 is spent annually for operation and maintenance of these facilities.

A water laboratory maintains a monitoring program of the waste water as it passes through the treatment facilities. Numerous samples are collected and individual analyses are made regularly. Based on the laboratory analysis of samples recently collected in the ravine receiving the waste water before it is discharged into the Mississippi River, the present facilities have reduced the five-day BOD (Biochemical Oxygen Demand) approximately one-half, compared to the period when the old facilities were in operation. Data is compiled and periodically submitted to the Minnesota Water Pollution Control Commission for their review.

3M works very closely with the Minnesota Water Pollution Control Commission on the development of a water pollution abatement program. This program is aimed at maintaining an effluent from the plant that does not limit the designated usage for this section of the river.

With the encouragement and approval of the Minnesota Water Pollution Control Commission, 3M has conducted extensive experimental studies since 1960, investigating the feasibility and possibility of using various treatment processes for additional treatment of the waste water from Chemolite. More than $100,000 has been invested by the company in these studies alone. An industrial plant with varied activities such as those at Chemolite uses water as one of its basic raw materials, and consequently, the treated water must be disposed of after it has been used. The company has cooperated with the Minnesota Water Pollution Control Commission and has satisfied their general desires in the past and fully intends to continue this cooperation in seeking solutions to future pollution problems involving this section of the river.

We request the chairman and conferees of this

Conference to review the natural assimilation characteristics of the river and include the disposal of feasibly treated waste water as one of the many essential uses of the Mississippi River in this section.

The 3M Company wishes to extend its appreciation for this opportunity to submit this statement to the Conference.)

* * *

MR. SMITH: I have a copy of the letter from the Pittsburgh Plate Glass Company. Do you wish me to read this or shall I just enter it for the record?

MR. STEIN: Do you want this letter read, or, if not, it can be in the record. This indicates what they are doing?

MR. SMITH: It is a statement of their attitude.

MR. STEIN: Do you want to read it or not?

MR. SMITH: We don't.

DR. HARGRAVES: Do you?

MR. MC DERMOTT: No.

MR. STEIN: Very well.

(The letter from the Pittsburgh Plate Glass Company is as follows:

PITTSBURGH PLATE GLASS COMPANY
LINSEED OIL DIVISION
P.O. BOX 74 - PHONE DU 8-2813
R. W. CORNELL, FACTORY MANAGER RED WING, MINN.

January 27, 1964

Dr. Robert N. Barr, Secretary
Water Pollution Control Commission
Minnesota Department of Health Building
University Campus
Minneapolis, Minnesota

Dear Dr. Barr:

Thank you for your letter of January 5, concerning the meeting on February 7, 1964, covering the various aspects of pollution of the Mississippi River, between Minnesota and Wisconsin.

Our position on this subject is quite clear by the record which shows that we backed the sewage treatment plant installation in Red Wing. Since the installation of the treatment plant we have worked closely with the City of Red Wing to make the operation of the treatment plant as easy as possible by doing considerable work within our own facilities to keep our contribution of load to the plant as low as possible.

The most unfortunate accidents in Mankato and

Savage last spring were, without doubt, serious and regretful occurrences. However, as with all sudden and major occurrences, a careful, deliberate, objective approach must be taken to ascertain whether this sudden and major occurrence is really likely to happen again and, if so, what is an equitable preventative solution. It is indeed fortunate that the Water Pollution Control Commission of our State is a thoughtful body that approaches these problems in a careful and deliberate manner for it is only in this way that the interests of all parties are protected and the public is best served.

We will be most pleased to discuss pollution problems and water usage requirements with the appropriate representatives of the Minnesota Water Pollution Control Commission and/or the U. S. Public Health Service. Any services which we may be able to render either of these organizations along the lines of the knowledge we have on these subjects will be gladly given.

Respectfully,

/s/ F. K. Bieri

Assistant Factory Manager)

* * *

MR. SMITH: I also have a statement from Richards

Oil Company.

MR. STEIN: That is one of those involved.

DR. HARGRAVES: It is the one that is involved. It is this one right here that is being prosecuted by the Government.

MR. SMITH: Yes.

MR. STEIN: Do you want this letter from Richards read?

MR. SMITH: It can be.

DR. HARGRAVES: Shall I read it?

MR. STEIN: Yes.

DR. HARGRAVES: This is from the Richards Oil Company. As you all know, there was the petroleum spill, and it is the one we have just been referring to. They wrote to Dr. Barr as follows:

> "I regret that I will be unable to attend your conference on interstate pollution which is to be held February 7, 1964 inasmuch, as I will be attending the American Waterway convention in New Orleans, February 3, 4, and 5th. Mrs. Richards and I will leave for the South from there for a short vacation.
>
> "We are most grateful to your commission for the help given us last year with a most difficult problem of oil slicks and water pollution.

"This was the most exasperating and expensive experience that I have had to endure in operating a petroleum terminal business during the past twenty years.

"We are now alert to the risks and dangers of water pollution, and have made expenditures of approximately $50,000.00 together with six months work to build adequate containment dikes and a oil water separation system on our river terminal site at Savage, to contain any liquid products that might escape from either pipelines or storage vessels on the property.

"As no man has the ability to predict an act of God, foresee or prevent all mechanical failures, such as we experienced when our pipeline ruptured during the night with a loss of 1 million gallons of petroleum, it is imperative that your conference establishes guidelines and standards for industries to prevent further water pollution of our rivers and streams.

"We wish your conference success in securing the cooperation of both municipalities and industry in this vital problem.

"Yours very truly,

RICHARDS OIL COMPANY

"/s/ Myron D. Richards,
President."

MR. STEIN: Thank you.

Are there any others, Mr. Smith?

MR. SMITH: I have a resolution adopted by the Minnesota Federation of Labor here, which they wish to be recognized.

MR. STEIN: Do you want that just put in the record?

MR. SMITH: Yes.

(The statement of the Minnesota Federation of Labor is as follows:

MINNESOTA AFL-CIO FEDERATION OF LABOR
47 W. NINTH STREET
SAINT PAUL 2, MINNESOTA

January 29, 1964

Dr. Robert N. Barr, Secretary
Water Pollution Control Commission
Minn. Dept. of Health Bldg.
University Campus
Minneapolis 14, Minnesota

Dear Dr. Barr:

We were pleased to receive your notice of the forthcoming Conference on Water Pollution, scheduled for Feb. 7, in the State Office Building, St. Paul.

Organized Labor has consistently supported measures necessary to correct numerous water pollution problems that exist in our state.

The following resolution was adopted at our 1963 Convention, held in Minneapolis, Sept. 16-18, 1963:

CONSERVATION COMMITTEE RESOLUTION NO. 1

Subject: Water Pollution

WHEREAS: Pollution of our State's lakes, streams and underground water supplies seems to be on the increase, and industry and the various subdivisions of government have not exercised the caution or discretion necessary to protect the health and recreational interests of our citizens; and

WHEREAS: This lack of concern and absence of corrective action endangers the health and welfare of our state and nation; now, therefore, be it

RESOLVED: That the Minnesota AFL-CIO Federation of Labor, its Central Bodies and Local Affiliates be vigilant for abuses in all corners of the state, and militant in its pursuit of corrective action to restore water areas already affected and preserve our natural resources for posterity.

We would heartily endorse any program initiated to clean up our lakes and streams in Minnesota to protect the health and recreation interests of our citizens.

Sincerely,

MINNESOTA AFL-CIO FEDERATION OF LABOR

/s/ R. A. OLSON, President

RAO:b

cc Wesley Ohman, Chairman, Interim Conservation Comm.
Rt. 3, Detroit Lakes)

* * *

MR. SMITH: The next one is a statement from the League of Women Voters.

MR. STEIN: Very well.

(The statement of the League of Women Voters of Minnesota is as follows:

League of Women Voters of Minnesota
c/o State Organization Service
University of Minnesota
Minneapolis, Minnesota 55455

February 7, 1964

STATEMENT TO THE INTERSTATE POLLUTION ABATEMENT CONFERENCE OF THE MISSISSIPPI RIVER INVOLVING MINNESOTA AND WISCONSIN

The League of Women Voters of Minnesota is particularly pleased to give its support to a conference which, we are sure, can improve water quality.

Our national Board members and staff have followed national water resources legislation with great diligence. They have testified at hearings and rallied member support for the Federal Water Pollution Control Act and amendments that have strengthened and extended this act. Many League members all over the country have been called on to explain League views and have helped to create support for water pollution legislation. In Minnesota, the local Leagues participated in putting together the publication "Water Resources in Minnesota" in 1959. This gave many people an introduction to the seriousness of our water problems.

The League feels that pollution abatement is the best way to make more water available for all users, as well as to remove health and aesthetic hazards. There are many groups that have reason to speak about this problem that faces us today. We recognize the importance of these special interests. Basically, what pulls us all together, is the concern for clean water. In the state of Minnesota, we are responsible for the condition of the water we send out of this state. We are vulnerable to the criticism of downstream users if we do not set a high standard for ourselves.

With increasing population and growing use of surface waters, a higher degree of treatment will be necessary in many localities. We are aware that in 1963 our own Minnesota Water Pollution Control Commission was able to step up its anti-pollution activities. It was last year that the state legislature extended the powers of the Commission and gave it enforcement authority. The area affected here is Minnesota's most populous and productive. The quality of our water will determine our health and our future.

But -- this authority ends at the Minnesota state boundary -- and the water keeps rolling along. We are especially grateful that this conference has been called by the Secretary of Health, Education and Welfare. We realize that the federal government has a unique role to play in erasing state lines and looking at our problems as part of a growing national crisis.

The statement of the League position on water resources is as follows:

In order to meet the present and future water needs of the people of the United States, the League of Women Voters believes:

A. Over-all long-range planning and development of water resources require

   1) Better coordination and organization at the federal level,

   2) Elimination of inconsistencies and conflicts in basic policy among federal agencies,

   3) Federal procedures which provide the Executive and Congress with adequate data and a framework within which alternatives may be weighed and intelligent decisions made.

B. Comprehensive planning, development, and water management on a regional basis are essential to the optimum development of the nation's water resources.

   1) Such development should meet the particular needs of the region but not be in conflict with the national interest.

   2) Machinery is needed, appropriate to each region, which will provide coordinated planning and administration among federal, state and other agencies.

   3) Procedures should be established which provide information and an opportunity for citizen

participation in policy decisions affecting the directions which water-resource development will take.

C. The federal government has a necessary role in financing water-resource development, but state governments, local governments, and private users should share such costs, as far as possible, based on the benefits received and the ability to pay.

We use this statement of League position to evaluate national water resource programs and legislation. We urge you also to use it as a criteria for developing pollution control programs in this area.)

* * *

MR. SMITH: Next I have a joint statement of the Minneapolis and St. Paul Area Chambers of Commerce for the record.

(The joint statement of the Minneapolis and St. Paul Area Chambers of Commerce is as follows:

JOINT STATEMENT OF THE MINNEAPOLIS AND SAINT PAUL AREA CHAMBERS OF COMMERCE

For presentation at the Federal and Interstate
Conference on Pollution of the Mississippi River

at Saint Paul, Minnesota, February 7, 1964

Mr. Chairman:

We sincerely believe that our area has pioneered in developing and putting into operation means of combating water pollution.

In 1938 the Twin Cities inaugurated the first metropolitan sewage treatment facility on the Mississippi River. Because of increased population and other factors a $23 million addition to the sanitary facility is now under construction and in the near future will be in operation. In addition to serving the central cities of Saint Paul and Minneapolis, 37 suburbs in the Twin Cities metropolitan area are connected to it. Under recent legislation a plan is being developed for the construction and financing of additional collection facilities so that more suburbs can be provided service. The expansion program also provides for treatment conforming to present state standards.

It is of interest to all metropolitan residents, numerous officials of the Twin Cities and their suburbs, together with representatives of business and industry who have been and are devoting large portions of their time to the problem. They are cooperating with legislators and the Minnesota State Water Pollution Control Commission in an effort to afford ever widening control of pollution in the metropolitan area.

We have been led to believe that current concern regarding pollution problems on the Mississippi may have been prompted by the widely publicized pollution last spring caused when petroleum and soybean oils flowed into the river from broken tanks or pipe lines. While these were very unfortunate incidents they bear not at all on this area's handling of the sewage treatment problem. Recent legislation vests power in state agencies to prevent or minimize recurrence of such incidents. The Chambers of Commerce of both Saint Paul and Minneapolis gave unqualified support to Senate File No. 243 enacted into law by the 1963 Session of the Minnesota Legislature.

This act "provides for prevention, control and abatement of water pollution by construction and operation of municipal sewage disposal systems." Quoting further from this act, "It is the policy of the State to provide for the prevention, control and abatement of pollution of all waters of the State so far as feasible and practical, in furtherance of conservation of such waters and protection of public health, and in furtherance of the development of the economic welfare of the State."

Everything possible is being done and has been done consistent with available resources and the needs of other metropolitan services.

SAINT PAUL AREA CHAMBER OF COMMERCE

MINNEAPOLIS CHAMBER OF COMMERCE)

* * *

MR. SMITH: Next I have two copies of a statement of the Outboard Boating Club of America.

DR. HARGRAVES: And they will send eight additional copies.

MR. STEIN: We will give one to the reporter, and unless there is objection, it will be copied into the record.

(The statement of the Outboard Boating Club of America is as follows:

STATEMENT

By Ron Stone of the Outboard Boating Club of
America Before a Bi-State Conference on Water
Pollution Control On the Upper Mississippi
River and Its Tributaries
St. Paul, Minnesota
February 7, 1964

Governor Rolvaag, Governor Reynolds, Mr. Chairman and Fellow Conference Participants, my name is Ron Stone.

I am a member of the Government Relations Department of the Outboard Boating Club of America, headquartered in Chicago.

We are a national trade association representing 166 manufacturers in the recreational boating industry, 22 of them in the two states that are the principal area of your study. Our Minnesota and Wisconsin-based member manufacturers enjoy a multi-million dollar share of the boating market. Their products are top brands in outboard motors, outboard and inboard boats, sailboats, houseboats, boat trailers and marine accessories.

The Outboard Boating Club of America speaks for the people who buy pleasure boating equipment as well as the people who manufacture and sell it. Over 350 boating clubs, boasting 40,000 individual members, are affiliated with us from coast to coast. Twenty-six of our clubs are in Minnesota and Wisconsin.

Naturally we are more than interested in the subject of water pollution control and abatement on the Upper Mississippi River. It affects the health and welfare of every person in the area who looks to the Mississippi and its tributary waters for boating, fishing, water skiing, waterfowl hunting, waterside camping and picnicking and other recreation.

There is a tremendous investment in dollars and pleasure at stake here. Boating and other forms of water recreation dependent upon the use of boats have helped make the recreational industry one of the top five industries in both Minnesota and Wisconsin. The Minneapolis-St. Paul area is one of the leading metropolitan markets in the country for outboard motors. We estimate there are at least 131,000 outboard motors in use in this area alone.

The boating industry likes to advertise going out in a boat as clean, wholesome recreation with something to offer the entire family, but this is a very hard sell where waterways are polluted. Polluted waters that are offensive to senses of sight and smell and corrosive or damaging to boat hulls take the refreshment out of boating.

Any attempt on our part to estimate the number of people who do not participate in pleasure boating because of pollution would be guesswork, but we have reason to believe that many are repelled from boating on certain waters because of filth and slime and other repugnant conditions.

We know of one midwestern boating club who turned their back on a river in their home community because the river looked and smelled up to its reputation as a common dumping ground for municipal sewage and industrial waste. The club built a clubhouse on a sparkling inland lake over one hundred and fifty miles away, and the members haul their boats hundreds of miles back and forth on weekends and holidays for the sake of clean, inviting water.

Ironically, we have heard it said that the tremendous increase in the use of inland waterways for boating, fishing and other recreational pursuits is part of the water pollution problem. If recreational watercraft do contribute to pollution, we submit it is very negligible compared to municipalities who inadequately treat or do not treat at all their sewage before discharging it into the water, and industries which likewise fail to treat adequately their waste products. If pollution from recreational watercraft were completely controlled, we do not think it would make any significant difference in the pollution problem in general. Nevertheless, we are eager to do everything reasonably possible to eliminate recreational boating as a source of water pollution however trivial.

Is pollution from recreational watercraft really a problem on the Upper Mississippi?

If the problem does exist, it would probably be most acute within areas of large concentration of boats, such as marinas, where there is perhaps relatively less dilution effect due to limited flow and other factors. Obviously, an important and effective deterrent to pollution in shoreside areas of heavy boat concentration is the provision of adequate sanitary facilities. Thus, marina operators, both public and private, should be encouraged to place restrooms and trash disposals convenient to docks and launching areas.

Another aspect of the problem is the deposit of rubbish and garbage overboard, particularly in areas where, when washed ashore, it will prove a nuisance to riparian property owners. This kind of heedless behavior is usually prohibited under general legislation found in most states. It is unlawful by statute in Minnesota and Wisconsin for anyone to throw refuse into any waters of the state. As a practical matter, however, effective enforcement of such laws is difficult.

This problem is not insurmountable. On our public highways where littering was formerly a serious problem it now seems substantially remedied by the twin approach of education and enforcement. Fines for an offender are often very high, and more important, the public has been persuaded to cooperate. We are encouraged by anti-litter campaigns for our waterways already initiated by boating groups alone and in cooperation with organizations such as Keep America Beautiful, Inc.

If we may judge by recent state legislation, the greatest attention in the area of boat pollution today is being devoted to regulating the operation of toilet facilities aboard boats. There are basically two legislative approaches to this:

1. Require the sealing of all marine heads to prevent the discharge of any excrement or other human waste into the water on the theory that this will eliminate the possibility of any pollution.

2. Require all marine toilets to be equipped with some device which will either effectively treat waste material before discharge into the water or provide for its retention and subsequent disposal someplace other than in the water.

The first method -- sealing -- is in effect in a number of areas and is usually the first method of attack proposed when any kind of boat pollution problem is discovered or alleged. For example, in Wisconsin except on Lake Winnebago, the Mississippi River, and the Wisconsin River for 15 miles above and below the dam at Wisconsin Dells, it is unlawful to maintain or operate any boat equipped with a toilet unless the toilet is sealed or otherwise rendered inoperative so that no human waste can be discharged into the water. This approach is deemed highly unfair since reasonable alternatives do exist. It also seems highly unrealistic since it defies basic laws of nature. A sealed toilet may create problems of convenience and etiquette but is unlikely to prevent the deposit of waste materials when the occasion demands.

A number of devices are now on the market which treat human wastes before they are committed to the water. For the most part these are chlorinating units of one kind or another. Usually some maceration process is also involved prior to chemical treatment.

Also recently developed are special devices to hold waste materials until they can be disposed of in waters far off-shore not susceptible to pollution or at a special shoreside facility.

The availability of these marine toilet appurtenances has given rise to a second form of state legislation, which we consider to be a more reasonable solution to the boat pollution problem.

In 1957 the state of New Hampshire, after considerable testing of the effectiveness of marine chlorinators, passed an act requiring that every toilet on any boat operated on state waters be equipped with a state-approved treatment device, and prohibiting the discharge of any untreated sewage into the water. The act authorizes the state's Water Pollution Commission to determine the adequacy of treatment devices, and any device used in a boat on New Hampshire waters must be constructed and installed in accordance with regulations of the Commission. State registration of watercraft equipped with toilets is conditioned upon proof that the toilets are fitted with an approved treatment device. All boats having toilet facilities are subject to inspection at any time to see that they comply with the law, and those that do not will have their registration suspended if the equipment violation is not corrected as soon as practicable.

The New Hampshire act was endorsed by the New England Water Pollution Control Commission not long after its adoption, and started a wave of action in the same direction.

Subsequently the Council of State Governments issued as part of its program of suggested state legislation a model act very similar to the New Hampshire law. At about the same time the Outboard Boating Club of America published its "Model Act on Sewage Disposal from Boats." (A copy is appended to this statement.) Both acts recommend the use of marine toilets be permitted only with the affixation of a treatment facility or method authorized by regulation of the state pollution control agency. They also authorize the state boat registering agency to refuse to number boats with toilets unless they meet requirements for treatment devices. At the same time, it is suggested that this problem remain exclusively under state jurisdiction, and that local units of government be expressly denied the right to regulate in this area.

Over the past five years the Outboard Boating Club of America has distributed thousands of copies of its model act without charge to people in and out of government. In this time we have seen six more states adopt laws requiring boat toilets to be equipped with sewage treatment devices. Four of these states, Minnesota, Missouri, South Dakota and Nebraska, are part of the Upper Mississippi River and its tributary system.

Other states are known to be considering the merits of requiring vessels to be equipped with treatment devices. Even as I present this statement, the legislatures of three states are entertaining proposed marine chlorination laws.

Recognizing this trend in boat pollution regulation, the Outboard Boating Club of America three years ago took positive steps to prepare boat manufacturers for installation of required treatment devices. We published a standard in our "Engineering Manual of Recommended Practices" for minimum space requirements for marine toilets fitted with chlorinator units. (See copy appended.) Boatbuilders are advised to leave a recommended minimum space on craft of size and design that can reasonably be expected to have toilets so that any owner hereafter required or wishing to install a sewage treatment device can do so without encountering structural difficulties. Incidentally, the American Boat and Yacht Council also has a standard on the same subject.

At the time we first published our recommended standard on this subject, a joint letter was sent by the Outboard Boating Club of America and the National Association of Engine and Boat Manufacturers to all known boatbuilders asking that they agree to leave the desired space. There was no dissent. Consequently, we believe you will find that virtually all boat manufacturers now provide adequate space for sewage treatment devices.

Today there are an increasing number of manufacturers interested in producing marine chlorinators. They, too, are conscious of the need for standards so that their products will be universally acceptable to the various state agencies responsible for approving treatment devices. Recently these manufacturers have taken steps to come together and cooperate with recognized testing authorities to develop acceptable standards and criteria. The U. S. Public Health Service is also involved in this standard-setting process.

We are pleased to report that boating law administrators, too, have jumped into the fray to fight water pollution. At the last annual meeting of the National Association of State Boating Law Administrators in November, 1963, the group pledged its support to anti-pollution efforts by federal and state governments. The administrators will seek to do all within their power to curtail any pollution by recreational watercraft, but at the same time, they intend to see that boaters are not made the scapegoats in particular pollution situations when the real culprits and real causes are elsewhere.

The National Association of State Boating Law Administrators has appointed a water pollution control committee to implement its aims and to serve as a liaison with other agencies and groups likewise concerned with the abatement of pollution. One of the committee members is a Minnesota man, Mr. Milton Johnson, Director of the Boat and Water Safety Division in the Minnesota Conservation Department.

In closing, let me emphasize once more that recreational boatmen are acutely aware of the necessity and desirability of keeping prime boating water like the Upper Mississippi River and its tributaries pure and clean. The future of boating in this area is dependent upon it. For this impelling reason, the boating sport and industry by and large have been, are and will continue to be self-policing in the anti-pollution measures they follow. It is a minor contribution to the campaign against water pollution, we grant you, because pollution from recreational boats is a relatively minor problem. But if we may borrow from a famous slogan to make a pun, "Every litter bit helps!"

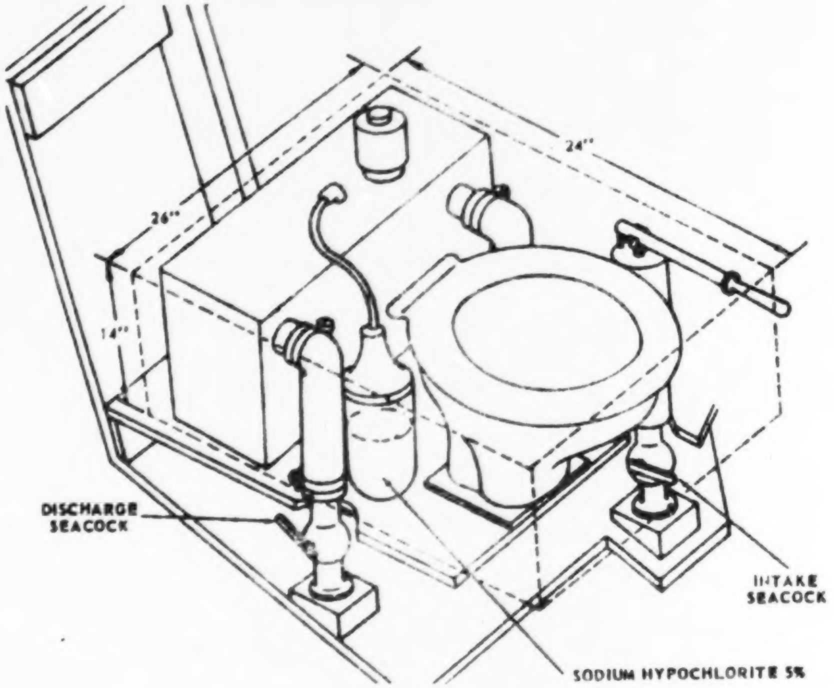
Thank you, Mr. Chairman, for the opportunity of

MARINE TOILET INSTALLATION

Outboard Industry Associations

1677

RECOMMENDED PRACTICE



MARINE TOILET INSTALLATION

Provision should be made for the installation of marine toilets with sewage treatment devices on outboard boats of size and design reasonably expected to use such equipment.

The envelope of dimensions showr is that obtained by the judicious selection of marine toilets which would be suitable in size and weight for installation in outboard boats.

The several chlorinator type treatment devices which are commercially available may be used with marine toilets of other manufacturers. Various arrangements of intake and discharge plumbing, fittings and through hull connections are possible in the dimensioned volume as measured from a flat cockpit floor.

Where toilets and treatment devices are of the same manufacturer, these units may be assembled in a somewhat smaller space.

The sewage treatment unit need not be located in close proximity to the toilet as shown. However, if the unit is so located, the dimensions given are near minimum.

It is recommended that all through hull connections below the water line be fitted with accessible sea cock connections. Sea cocks are available that will not increase space requirements for the complete installation.

APPROVED

[illegible]

MODEL ACT ON
SEWAGE DISPOSAL
FROM BOATS

OBC

OUTBOARD BOATING CLUB OF AMERICA
307 N. Michigan Avenue
Chicago 1, Illinois

A UNIT OF THE OMNIBUS BOATING CODE

All those who are interested in pleasure boating have a stake in keeping our waterways free of pollution. Waters which are clean, clear and sparkling are the most attractive and afford the greatest satisfaction.

Most pollution results from industrial waste and municipal sewage which have been inadequately treated (or treated not at all). In the total picture, pollution from the use of toilets on pleasure craft is almost an infinitesimal factor. Yet we recognize that in areas of extreme congestion, unregulated disposal of wastes from boats can be annoying.

This problem ordinarily is present only in busy harbors, mooring areas immediately adjacent to swimming beaches, and small lakes with many residences on the perimeter. For such places there is a solution in the form of a reasonable regulation. This model law is the suggested form of such a regulation.

There are now available inexpensive devices which can be attached to marine toilets which effectively prevent pollution. These make unnecessary the adoption of the harsh rule requiring the sealing of all boat toilets while in certain areas.

The following model law is based substantially upon an act passed by the state of New Hampshire in 1957 and which took effect December 31, 1958. This statute was in turn endorsed by the Council of State Governments, a non-partisan organization supported by all of the states devoted to the improvement of state government. As an introduction to the statute which was suggested be adopted by all of the other states, the Council said:

> "The popularity of cabin cruisers and house-boats has shown a marked increase in recent years. Such craft are capable of handling a number of passengers and can lodge them with reasonable comfort for extended periods of time. This leads to the creation of a sewage disposal problem, perhaps

> "small when there are few boats on a large body of water, but of much more serious proportions when the water area is a small lake or if the number of boats becomes large.
>
> "In some of the states, recreation and vacation facilities have become a major industry. Lakes and rivers rank as primary attractions among such facilities. If polluted, they immediately lose their attractiveness and become a positive menace. Hence the need for early and effective action against potential blight caused by careless sewage disposal."

The New Hampshire statute upon which the following model is based also has the endorsement of the New England Water Pollution Control Commission.

TITLE

An Act relative to marine toilets and disposal of sewage from boats.

> The technical requirements of what must be included in the title vary from state to state. These requirements must be adhered to exactly or the statute will be held to be invalid by the courts.

SECTION 1

DEFINITIONS

The term "watercraft" means any contrivance used or designed for navigation on water.

The term "sewage" means all human body wastes.

The term "marine toilet" means any toilet on or within any watercraft.

The term "waters of this state" means all of the waterways on which watercraft shall be used or operated.

> NOTE: In some states it may be desired to limit the application of this act to certain waters only and thereby exempt large bodies of water where there is no conceivable boat pollution problem. The affected areas could be listed or the Commission be authorized to make a finding that a particular waterway should or should not be covered by the act.

The term "Commission" means the (here enumerate the state agency which shall administer this act).

> The choice of agency is of course a matter for each state to decide for itself. It is recommended, however, that consideration be given to the state agency dealing with water pollution problems in general.

The term "Department" means the (here insert state agency which issues certificates of number for pleasure boats).

SECTION 2

MARINE TOILETS -- RESTRICTIONS

No marine toilet on any watercraft operated upon waters of this state shall be so constructed and operated as to discharge any inadequately treated sewage into said waters directly or indirectly. No watercraft shall be so equipped as to permit discharge from or through its marine toilet, or in any other manner, of any inadequately treated sewage at any time into the waters of this state, nor shall any container of such inadequately treated sewage be placed, left, discharged or caused to be placed, left or discharged in or near any waters of this state by any person at any time, whether or not the owner, operator, guest or occupant of a watercraft.

This section prohibits the discharge of any untreated sewage.

SECTION 3

MARINE TOILETS -- MANNER OF OPERATION

Any marine toilet located on or within any watercraft operated on waters of this state shall have securely affixed to the interior discharge opening of such toilet a suitable treatment device in operating condition, constructed and fastened in accordance with regulations of the Commission, or some other treatment facility or method authorized by regulation of the Commission. All sewage passing into or through such marine toilets shall pass solely through such devices. The Commission shall have authority to carry out the provisions of this act by appropriate regulations.

> As previously noted, these treatment devices are now available at very moderate cost. With further improvements likely in the near future, it is unwise to "freeze" any particular specifications for such a device in the statute. All technological changes can be readily incorporated into rules and regulations. Note that the basic idea behind these devices is not patentable.

SECTION 4

LOCAL REGULATIONS PROHIBITED

Through the passage of this act, the state fully reserves to itself the exclusive right to control the discharge of sewage from marine toilets.

With this law on the statute books of the state, there is no need for any additional or differing local rules. The latter could only serve to confuse and harass the boating public.

SECTION 5

ENFORCEMENT

All watercraft located upon waters of this state shall be subject to inspection by the Commission or any lawfully designated agent or inspector thereof at any time for the purpose of determining whether such watercraft is equipped in compliance herewith.

SECTION 6

CERTIFICATE OF NUMBER

The Department may require persons making application for a certificate of number for a watercraft pursuant to (here give statutory citation to state Boat Numbering Act) to disclose whether such watercraft has within or on it a marine toilet, and if so, whether such marine toilet is adequately equipped with a treatment device securely affixed thereto as required by this act. The Department is further empowered to refuse to issue a certificate of number or a renewal thereof if such treatment device has not been affixed as required by this act.

SECTION 7

PENALTY

Any person who violates any of the provisions of this act or regulations of the Commission promulgated hereunder shall be deemed guilty of a misdemeanor and upon conviction shall be punished with a fine of not more than $100, or by imprisonment of not more than 30 days, or by both such fine and imprisonment at the discretion to the court.

SECTION 8

FILING OF REGULATIONS

A copy of the regulations adopted pursuant to this act, and any of the amendments thereto, shall be filed in the office of the Commission and in the office of the (official state record keeping agency). Rules and regulations shall be published by the Commission in a convenient form.

SECTION 9

SAVINGS CLAUSE

If any court shall find any section or sections of this act to be unconstitutional or otherwise invalid, such findings shall not affect the validity of any sections of this act which can be given effect.

SECTION 10

EFFECTIVE DATE

The effective date of this act shall be ....

It is suggested that the effective date of this act be delayed so that all persons affected by its provisions will have a reasonable amount of time to become acquainted with it and secure the required treatment device.)

* * *

MR. SMITH: This is the extent of the reports, except that the reporter has been instructed to put some additional information into the record which has been supplied to him.

MR. STEIN: Very well.

(The additional information requested to be copied into the record is as follows:

INDUSTRIAL WASTE DISPOSAL ON THE MINNESOTA RIVER

North Star Concrete Products Company, Mankato

This company is engaged in the washing of sand and gravel at a site on the Minnesota River. Some of the material is obtained by dredging in the river. Waste water and tailings from the washing operations are treated in a clarification basin which overflows to the river.

Archer Daniels Midland Company, Mankato

The company is engaged in soybean oil extraction and refining. Cooling water and water conditioning wastes are discharged to a ditch which drains to the Minnesota River. The process wastes are discharged to the municipal sanitary sewer after passing through an oil separator.

Blue Cross Rendering Company, Mankato

This plant is located on the east bank of the Minnesota River in the northern part of Mankato. The plant processes dead animals, meat scraps and animal offal to produce non-edible fats and a high-protein feed additive. The liquid wastes are discharged to the river after treatment.

The treatment facilities consist of a grease trap for the cooling water and condensate, and a biological filter plant for the process wastes.

Gopher State Silica Company

The plant is engaged in the washing and grading of silica sand at a site near the Minnesota River a few miles downstream from St. Peter in LeSueur County. Water for plant operation is pumped from the pit and Cody Lake and discharged together with tailings from the washing and grading operations to a clarification basin which overflows to Cody Lake and the Minnesota River.

Green Giant Company, LeSueur

This plant is located adjacent to the Minnesota River and is engaged in the canning and freezing of peas and corn. Operation of the plant is seasonal. Liquid wastes from the operation include cooling water, corn silage stack liquor and water used for cleaning of the plant and equipment. The total waste flow is reportedly about 1 mgd. The process wastes and silage liquor are disposed of by means of a ridge and furrow irrigation field.

Minnesota Valley Milk Processing Cooperative Association, Belle Plaine

The plant is located on the right bank of the Minnesota River. The principal activity is the drying of non-fat milk for human consumption and it is one of the largest plants of its kind in the state. Liquid wastes consist of cooling and condensing water, losses from milk drying, and tank truck washings as well as equipment and floor washings. The cooling water is segregated from the process wastes. The sanitary sewage is segregated from the process wastes, and discharged to a septic tank followed by a soil absorption field. The company is currently engaged in making engineering studies for construction of process waste treatment facilities.

Rahr Malting Company, Shakopee

This plant produces malt from barley. The processes consist of steeping, germination, and drying. The wastes produced consist of cooling and wash waters. The total waste water flow amounts to about 3 mgd of which about 75% is clean cooling water. Basket screens are located at points within the plant to catch residual grain. No further treatment is provided, but an allowance was made in the design of the city interceptor sewer to permit discharge of the process wastes into the city system at some future date when additional treatment facilities are provided by the city.

Owens -Illinois Glass Company, Scott County

This plant manufactures paper boxes and other containers from paper stock. Processes consist of cutting, forming and gluing. The major process waste consists of residual starch and this is treated with sanitary sewage in an activated sludge plant (package unit) which is designed for a flow of about 0.015 mgd. The effluent is discharged to the Minnesota River via a ditch.

Cargill, Inc., Savage

This plant is located on the right bank of the Minnesota River and is engaged in extracting and refining soybean and linseed oil. Waste treatment facilities consist of screens and an oil separator. Treated wastes are discharged to the Credit River near its confluence with the Minnesota River.

Extensive storage facilities are provided at Port Cargill in connection with barge shipment of vegetable oils and soybeans.

Northern States Power Company, Black Dog Plant, Burnsville Township, Dakota County

This steam electric generating plant is located on the Minnesota River about 8 miles above the mouth. The plant has a net capability of about 460,900 kilowatts and under maximum capacity operation rejects about $2,460 \times 10^6$ BTU/hr. A condensing water recirculation pond is used so actual heat losses to the river are not known but are estimated to be considerably less than the plant rejection, although this is to some degree dependent upon river levels and water temperatures. Maximum cooling water flow is about 300,000 gpm with recirculation dependent on river levels.

Ashes are handled hydraulically and used for fill on the plant grounds. The ash flume water is clarified by means of a settling pond.

Twin City Barge and Towing Company, Burnsville Township, Dakota County

This company operates stationary barge cleaning facilities on the right bank of the Minnesota River in Burnsville Township. The facilities are operated during the river shipping season only. In general, the operations consist of cleaning coal barges so that they can be loaded with grain. Wastes from the operations include coal and grain mixed with wash water, most of which is discharged directly into the river without treatment. The company does not usually clean barges which have been used to transport liquids, but occasionally will clean barges which have been used to transport sulfur, phosphate rock, or similar materials.

A study is being made by the company to determine if the wet cleaning now done can be replaced by dry cleaning methods.

Minnesota Harbor Service

The company is engaged in cleaning of barges on the right bank of the Mississippi River upstream from the High Bridge in St. Paul. The barges cleaned are mostly coal and grain barges. Wastes from the operation consisting of wash water containing some coal or grain are discharged directly into the river without treatment. It is reported that the company does not clean barges which have been used to transport liquids, but occasionally will clean barges which have been used to transport sulfur, phosphate rock, or similar materials. These operations are seasonal. Recommendations have been made to the company to improve their waste disposal practices but no information has yet been received as to changes to be made.

Twin City Barge and Towing Company

The company operates mobile barge-cleaning facilities on the Mississippi River in the Port at St. Paul. The facilities are operated during the river shipping season only. In general, the operations consist of cleaning coal barges so that they can be loaded with grain. Wastes from the operations include coal and grain mixed with wash water, most of which is discharged directly into the river without treatment. It is reported that the company does not clean barges which have been used to transport sulfur, phosphate rock, or similar materials. Studies are underway by the company to determine if dry cleaning methods can be substituted for the present method of wet cleaning of the barges.

Northern States Power Company, Proposed R. F. Pack Plant

This proposed steam electric generating plant will be located on the Mississippi River at the south city limits of St. Paul (between the Minneapolis-St. Paul Sanitary District sewage treatment plant and the South St. Paul sewage treatment works). The initial stage of construction is scheduled for completion in 1968. It will produce 500,000 kilowatts and have a heat rejection to the river of about 2,100 x 10^6 BTU/hr in a cooling water flow of about 250,000 gpm. Under these conditions, the condensing waters would have about a 17°F rise in temperature.

J. L. Shiely Sand & Gravel Company

This company is engaged in washing sand and gravel on Grey Cloud Island in Inver Grove Township, Washington County. Waste water, together with tailings from the washing operation, is discharged to clarification basins. The effluent drains into the river.

Liquid Carbonic, Division of General Dynamic Corporation, Dakota County

The wastes consist essentially of cooling water and a small amount of process chemicals used in the production of solid and liquid carbon dioxide from gas supplied by St. Paul Ammonia Products, Inc. The waste is pumped into the forcemain which also carries the waste from St. Paul Ammonia Products, Inc. Treatment consists of reaction with the ammonia plant waste in the pipeline. Reports are submitted monthly with the report of St. Paul Ammonia Products, Inc.

Northwest Cooperative Mills, Inc., Dakota County

The waste disposal facilities for this phosphoric acid and ammonium phosphate fertilizer plant consist of a gypsum storage lagoon, pumping station, and storm water collection system with detention pond and conductivity sensing system. The lagoon is designed for an average waste flow of 4.32 mgd and is operated essentially as a closed system with the lagoon effluent being reused in the plant. Gypsum is stored permanently in the lagoon. Plant area run-off is monitored, and when found to be of unsatisfactory quality, is diverted to an emergency detention pond.

The company has recently found some small leaks from the gypsum pond to the river and corrective action is underway to locate and seal the leaks.

D. H. Hudson Manufacturing Company

This plant is located upstream from the USH 61 bridge in Hastings. The company is engaged in the manufacture of spraying equipment. The wastes include paint scrubber water and metal finishing wastes, both of which are discharged to the Mississippi River. Waste treatment facilities consisting of chemical reduction and precipitation have been provided, and studies are in progress in regard to facilities for dispersion of the effluent.

Foot Tanning Company

This plant is located in Red Wing on a small creek a short distance from the Mississippi River. The company does both chrome and vegetable tanning. The wastes are screened and discharged to a series of sedimentation basins which overflow to the creek. The existing facilities are considered the first stage of total waste treatment facilities which may be required to avoid unsatisfactory conditions.

Northern States Power Company, Red Wing Plant

This steam electric generating plant has a net capability of 29,000 kilowatts and is located on the Mississippi River at Red Wing. Heat rejection to the river at maximum capacity is about 174×10^6 BTU/hr. The cooling water flow is about 37,000 gpm when operating at maximum capacity with the river temperature in excess of 70°F. Under these conditions the temperature rise through the condensers is about 9°F.

PRELIMINARY LIST OF LIQUID STORAGE DEPOTS ON THE MISSISSIPPI RIVER*

(* Not including those which are a part of a "wet" industry which is listed as having a separate waste outlet.)

Western Oil and Fuel Company, Minneapolis

The company is located on the right bank of the Mississippi River upstream from the Minneapolis municipal dock. The company is engaged in the marketing of gasoline and fuel oils which are received by barge, stored and shipped by tank truck. The total storage capacity at this site is about 7 million gallons in 20 tanks. Dikes are provided around all of the tanks and each dike reportedly provides secondary containment capacity of about 120 per cent of the capacity of the tanks enclosed.

Industrial Molasses Company, St. Paul

The company is located on the left bank of the river upstream from the Minneapolis-St. Paul Sanitary District plant. The operation consists of receiving, storing and shipping of industrial molasses. The company has dock facilities on the river. and generally receives the molasses by barge or rail, and ships by truck or rail. No dikes or other secondary containment structures are provided around the molasses storage tanks and in the event of a major tank rupture molasses could drain into the river.)

* * *

MR. STEIN: This concludes the Minnesota presentation, I take it?

MR. SMITH: Yes.

MR. STEIN: In view of the time limitation, I understand we may very well be out of power here literally.

DR. HARGRAVES: You were speaking about pressing a button and finding no power.

Closing Statements

MR. STEIN: I think we may be able to combine the summary and discussion in one. All of these statements will be carefully considered and, as I see this, they will be most helpful in formulating a solution.

From the expressions that I have heard, the conferees may be rather close together. I would like to take Mr. Hargraves' statement. He says:

> "At the outset, it should be made clear that no one denies the existence of pollution in the stretch of river immediately below the Twin Cities or questions the need of improvement."

The report of the Department of Health, Education, and Welfare indicates that industrial, municipal and storm overflow sources have created what in their opinion is a pollution condition, which creates a health hazard for those engaging in water contact sports, causes visual nuisances, interferes with fish and fishing, causes sludge banks which give off noxious odors and floating sludge, and interferes with bottom aquatic life and feeding and spawning grounds for fish propagation.

The Minnesota group, which has the large bulk of industries and municipalities in this area, by virtue of indicating their future plans, certainly believes that adequate remedial facilities have not been constructed yet. As to the nature of the delays, the delays, if any, come from the very problems that you have in dealing with a large, complicated metropolitan area. You may be very much better than a lot of other metropolitan areas, but this problem is indigenous to these large metropolitan areas throughout the country.

It is pretty evident too that both State agencies concerned have active and vigorous programs. All the people who have participated here, the municipalities, the industries, the citizens' groups, all want a clean river.

The differences may lie in the factual basis of what we mean by "a clean river" and "no pollution," and what has to be done about it.

It is our conviction that given the facts and the data, reasonable men can agree on what should be done in dealing with pollution or a measure of pollution. After all, we are dealing with a physical measurement of a material thing, and I think reasonable men can agree on this.

We have been asked here by the Governors of both States on all aspects of the intra and interstate aspects of pollution. We are proposing that the Department of Health, Education, and Welfare engage in an intensive survey of the stretches of the river covered by the reports here, and do this in conjunction with both State agencies.

Closing Statement

Let me go back again to Dr. Hargraves' report for Minnesota. He says:

"The Commission welcomes the opportunity to join with the U. S. Public Health Service in their announced study of river conditions in this area and suggests that the Wisconsin Committee on Water Pollution be invited to participate." -- participate both on a technical level with the group, and in an advisory and guidance capacity, so we can arrive at agreement on methodology, and when the report and study are completed it can be useful to all parties concerned.

This report, as has been indicated here, should include but not be limited to municipal wastes, industrial wastes, Federal installations, thermal sources of pollution, agricultural sources, bulk storage areas, pipelines and barges, to tributaries of the Mississippi River, coliform bacteria, B.O.D.'s, suspended solids and sludge deposits, oil, algae, tastes and odors, and pesticides. The studies can be modified or expanded, as the technical committee will request.

For the information of some of you, we already have a resident group here as a nucleus. Mr. Prince is our Resident Director of the study, and he is headquartered in the Twin City area. We are now staffing up for the study.

We cordially ask both Minnesota and Wisconsin to join us in this, in its technical and policy direction, and to provide as much assistance as they can from their programs.

It is our conviction that we are a public agency doing public business in a public manner. We would not like to go behind closed doors with the study. We would like to report to the people from time to time.

When the results of the study are completed, we would suggest that we can then hopefully have agreement of all parties concerned, that is, municipalities, industries, citizens' groups, and the State and Federal agencies. At that time we can reconvene a session of the conference and see where we are going.

I should point out that in no way should this study be construed as being something superimposed on the normal operations of the Minnesota or Wisconsin pollution control authorities. The program they have for clean-up obviously is the irreducible minimum that is needed. No one should think that the study is going to change this, or that the State authority's programs should not go forward. The point is that this is to augment that and supplement that, but not be a substitute for the State programs.

The essential way to get pollution cleaned up is still a Federal-local situation.

MR. SMITH: I would like to ask, by "tributaries" you mean the tributaries as defined in the call of the conference?

MR. STEIN: As defined in Mr. Rademacher's report.

MR. SMITH: Also, did you include low-flow augmentation in the studies?

MR. STEIN: No. We did not include low-flow augmentation, but I think that is appropriate to include in the studies.

You have to understand here that on low-flow augmentation, we have to act under our own statutory authority on call of the Corps of Engineers or the Bureau of Reclamation. Here it would be the Corps, but I don't think there will be any problem in adjusting that.

MR. SMITH: I think it also should be understood that this may curtail the State water pollution control program, depending upon the extent to which it is necessary for us to participate in this study with your people, over and above what we normally would be doing.

MR. STEIN: I understand that.

Let me say this: We would welcome any assistance we could get from either State. However, we are prepared to underwrite all the technical staff work on the study, completely, if we have to, but it is always better, if it is possible, for State people to participate at any level.

If you can't participate on the operating level, certainly we can have participation in technical advisory groups and committees.

MR. SMITH: Yes.

MR. STEIN: Are there any other comments?

DR. HARGRAVES: There is just one short statement that I am going to give to you, but I will tell you the sum and substance of it at the end.

Inasmuch as the Commission has gone on record as favoring the Metropolitan Sanitary District, we are just submitting this hope, if you will, that the coming study and report can be planned and carried out so that the features bearing on metropolitan sewage disposal will be completed in time for reporting the findings and recommendations thereon by the opening of the next session of the Legislature in January of 1965.

Otherwise, there is another good excuse to go two more years before any accurate legislation may follow.

MR. STEIN: We will make every effort to get those aspects of the study completed, which will fit the exigencies of the State program.

The purpose of the study is to assist the State program, not deter it. We have, in studies in the past, given priority to those items that State water pollution control agencies considered the most important ones. If you think that item should be given priority, I am sure it will be given, and, if it is humanly possible, the deadline will be met.

DR. HARGRAVES: As I said before, we welcome the survey of the Mississippi River to be made by the Public Health Service because it will yield much valuable information which we could not obtain with our limited funds and manpower. However, we are concerned because this survey, as announced, will not be completed until some time after the 1965 session of the Minnesota Legislature.

Important measures affecting the sewage disposal of the Twin City metropolitan area and the pollution of the Mississippi River below will undoubtedly come up for consideration at that session. Some of them will be highly controversial. The fact that a government survey of the river is in progress will very likely be seized upon by opponents of these measures as an argument for delaying action thereon until after the survey is completed.

The most important measure in this category is the proposal for creating a metropolitan sanitary district to provide a unified sewage disposal system for the entire territory including and surrounding the Twin Cities that is likely to be developed for residential use in the foreseeable future. This would supersede the present Minneapolis-St. Paul Sanitary District, which embraces only those two cities and handles sewage from suburban units under contracts. The Commission has supported the metropolitan proposal as being the most effective and economical means of sewage disposal for the entire area.

A bill to create a metropolitan sanitary district was introduced at the 1961 session of the Legislature, but failed to pass because of disagreements among the affected municipalities over governmental and financial problems. A revised bill was introduced at the 1963 session, but that too failed to pass, partly because it came in late and partly because the Legislature had passed the Rosenmeier bill and the Aschbach bill with the idea that some of the provisions of those bills would serve for dealing with at least the most pressing metropolitan area problems.

The Commission intends to make the fullest possible use of these provisions. However, we have grave doubts that they will be adequate for dealing with some serious problems which will demand action in the near future. Among these problems is the provision of adequate trunk or interceptor sewers of sufficient size to handle the increased sewage flow from outlying areas which are not yet developed, but which are bound to be developed within the next ten, twenty, or thirty years. These are costly long-range projects. Programs for their construction should be initiated soon so that they will be ready in time to avoid another serious situation of overloaded facilities such as we now have.

The Commission believes that a metropolitan sanitary district is needed to handle these and similar important problems which are beyond the capacity of existing agencies, even under the provisions of the Rosenmeier and Aschbach bills. If the proposal for creating such a district is not acted on at the 1965 session of the Legislature, it will mean another two years of delay.

We therefore hope that the coming river survey can be planned and carried out so that the features bearing on metropolitan sewage disposal problems will be completed in time for reporting the findings and recommendations thereon by the opening of the next session of the Legislature in January, 1965. Continuation of other aspects of the survey thereafter may, of course, be necessary and desirable.

MR. STEIN: Mr. Muegge?

Closing Statements

MR. MUEGGE: I prefer reading mine into the record.

MR. STEIN: Yes.

MR. MUEGGE: Don't be alarmed. This is short, but I read it because I am quite sure I can do that better than the reporter can read my writing.

It appears that the Water Pollution Control Agency of Wisconsin has had continuing programs to bring about better stream conditions, said programs encompassing the boundary waters of Wisconsin, including the St. Croix and Mississippi Rivers.

In Wisconsin, while we do not claim perfection for our statutes, those dealing with water pollution control have generally proven adequate for the task, and no shortage of personnel has handicapped Wisconsin's efforts to abate and eliminate pollution of the interstate waters under consideration here.

In Wisconsin, the combined agencies, the State Board of Health and the Committee on Water Pollution, operating generally on the river basin clean-up program, have, up to January 1st, 1964, issued orders on 1,125 pollution sources. Aceeptable compliance has been gained in some 890 cases, including some where legal proceedings were instituted. Usually the start of legal enforcement was sufficient to produce a start on planning and construction.

Conferences between owners of unsatisfactory installations and representatives of the control agencies have also been most effective in bringing about voluntary compliance initially, or compliance without court action where order compliance dates were not met.

In the region covered by this conference, orders were, in some cases, necessary to start a sewage treatment project on its way. Today, as previously indicated, all sewered communities in the region have provided treatment facilities. In fact, all sewered communities along our interstate boundary streams with Minnesota and Iowa have such facilities, notwithstanding the large volume of dilution water that is available and which is utilized in the lower reaches of the Mississippi River.

In closing, I wish to assure the conferees that the pollution control agencies of Wisconsin will participate in the proposed study project, insofar as their interest may appear, and in keeping with staff and fund limitations.

We would, however, suggest that the region under study be extended up through St. Croix Falls and Taylor Falls community. Should this be done, the study will then mesh with the proposed study for the upper clean water reaches of the St. Croix River.

MR. STEIN: Thank you, Mr. Muegge. I think we have a consensus here that it would be entirely appropriate for the study to be extended to the areas you suggest. If there is any objection, let me hear it.

DR. HARGRAVES: No. That is the finest stretch of water we have between the two States.

MR. STEIN: All right. I have just one or two small chores left.

First, I think we should indicate that the kind of study we are engaged in is a study to come up with an action program, not just a study to go on the shelf.

I am sure, seeing the two agencies here and the people here, we can confidently expect an action program.

I think some of you may know our reputation too. There should be a consensus on action.

I might also point out the kind of magnitude of the study. For this fiscal year, we will have available about $250,000 for that. If it has to go another fiscal year, you never can predict what the Congress is going to vote, but our intention is to continue it at the same rate. I don't know, and we will have to hear from our technical people how long this will take.

Just to make the report complete, I have a letter here from a Miss -- maybe it is not Miss --

Elukaszewski, 3713 York Avenue, Minneapolis, wherein she says:

> "Can the heavy dosage of big city streets with salt be included in the Committee's consideration of river pollution problems?"

I understand that is a problem here. Certainly, the technical committee will consider that. I don't know what can be done about it.

I would like to thank you all for coming and participating. I think we have achieved a program which should lead to very productive results. While I recognize all the views that I have heard from the audience and others, and I am very sympathetic with them, I think both States should be commended for the efforts they have made in this area, considering the limitations of their personnel and their funds. You have to consider these things.

I do think that if you went around the country and saw how pollution problems were handled, you would realize that in coping with a metropolitan problem, as is presented by St. Paul and Minneapolis, your State agencies have done a job -- and I can say this after listening to this for several days -- which in my opinion has been as good as any State has done in dealing with this problem.

I would like to thank you all for coming and participating in this.

I want to say just one more thing -- and this isn't like a Beethoven symphony; it is going to end sometime -- I think the problem is so big in this area that we are going to need the concerted effort of all -- the citizens' groups, the industries, the municipalities, the State agencies and the Federal Government -- in order to handle this problem. There is enough work for all of us to do.

Thank you very much.

We stand adjourned.

(Whereupon, at 5:35 p.m., the Conference was adjourned.)

REPORTER'S CERTIFICATE

I, AL M. ZIMMER, do hereby certify that I was present at the time and place first hereinbefore set forth, the aforementioned parties appearing; that I took down in shorthand the entire proceedings had at said time and place; afterwards transcribed said shorthand notes; and that the foregoing 1712 pages constitute a true, correct and complete transcript of my said shorthand notes.

Al M. Zimmer

March 6, 1964.

ADDENDUM

THE FOLLOWING WAS SUBMITTED FOR INCLUSION IN THE RECORD AFTER COMPLETION OF THE RECORD:

STATE OF MINNESOTA
WATER POLLUTION CONTROL COMMISSION
MINNESOTA DEPARTMENT OF HEALTH BUILDING
UNIVERSITY CAMPUS
MINNEAPOLIS
55440

February 14, 1964

Mr. Murray Stein
Chief, Enforcement Branch
Department of Health, Education, and Welfare
Public Health Service
Washington 25, D. C.

Dear Mr. Stein:

We are enclosing a copy of a letter received from C. David Loeks, Director, Twin Cities Metropolitan Planning Commission, with a copy of a statement prepared for presentation at the Conference held in St. Paul on February 7 and 8, 1964.

You will note that this statement is submitted for the record.

Respectfully,

/s/ Robert N. Barr, M.D.

Secretary

Enclosure

P. S. Also enclosed is a copy of a letter from Bonestroo, Rosene and Associates, for the Townships of Cottage Grove and Woodbury. This letter is also submitted for the record.

* * *

TWIN CITIES METROPOLITAN PLANNING COMMISSON
Griggs-Midway Building - University at Fairview - Saint Paul
4, Minnesota, Midway 5-9194

February 11, 1964

Mr. Robert N. Barr, M.D., Secretary
Water Pollution Control Commission
State of Minnesota
Minnesota Department of Health Building
University Campus
Minneapolis 14, Minnesota

ATTENTION: Mr. Lyle Smith

Dear Mr. Smith:

This is to officially submit for the record two copies of a statement prepared for submission at last Friday and Saturday's Water Pollution Conference. As you know, Mr. Dalglish did not have an opportunity to present this statement in person. However, we would like this material to be in the record.

If you would like additional copies, please contact us.

Sincerely,

/s/ C. D. Loeks

C. David Loeks, AIP

Director

Enclosures (2)

CDL/js

* * *

STATEMENT OF JAMES J. DALGLISH, CHAIRMAN, TWIN CITIES METROPOLITAN PLANNING COMMISSION BEFORE THE INTERSTATE WATER POLLUTION CONFERENCE HELD FEBRUARY 7, 1964, IN THE STATE OFFICE BUILDING, SAINT PAUL, MINNESOTA

My name is James J. Dalglish. I appear here as Chairman of the Twin Cities Metropolitan Planning Commission and would like to submit the following statement in its behalf.

The Twin Cities Metropolitan Planning Commission was established by an act of the 1957 Minnesota State Legislature (MSA 468), and provides advisory metropolitan planning service for the area consisting of Anoka, Dakota, Hennepin, Ramsey, Washington, Scott and Carver counties. The Commission consists of 30 members who are broadly representative of the civic and governmental interests of the Twin Cities Metropolitan Area. It speaks with the interests of the Metropolitan Area as a whole in mind.

The Commission, in cooperation with other government agencies, has studied the water pollution problem as a component of the larger question of water resource management. Its findings and conclusions have been distributed widely in published reports. Since these constitute the best record of the Commission's thinking on this subject, I'd like to enter the following documents into the record: water report, parts I & II, sewer report, parks report, and the policy statement on sewers.

In the interest of brevity, I'll confine my statement to a summary of the present and future status of the water pollution problem as seen from the metropolitan vantage point. When I'm through I'll be happy to answer your questions.

What is the present situation? Basically, it is this: people of the Metropolitan Area, through study and community debate over the past several years, have arrived at a general agreement that secondary sewage treatment for all areas developed at urban density is necessary to the protection of the Area's water resources and the public health. Moreover, it also is generally agreed that a metropolitan approach is needed to build and finance the major collection and disposal facilities that will be required. The Minnesota State Legislature has formalized this consensus in two ways. Policies being implemented under the "Rosenmeier Law" (which is state-wide in its application) prohibit the discharge of sewage effluent into a water course in this Area unless the sewage has been given secondary treatment in a manner satisfactory to the State Health Department and the Water Pollution Control Commission. Under the "Ashbach Law" the

Minneapolis-Saint Paul Sanitary District has been charged with the responsibility of developing an area-wide plan for the collection and treatment of sewage for that part of the Metropolitan Area which can be served by a central plant. Work on this plan is progressing and a report of its findings and recommendations will be made to the 1965 Legislature. At the same time this plan is being developed, the Minneapolis-Saint Paul Sanitary District is undertaking a major expansion and conversion of its Pigs Eye Island plant to secondary treatment. It is committed to a policy of cooperation with suburban communities to see to it that disposal service is provided for sewage collected by local systems within its tributary area. The area embraced by its study currently contains 70% of the Metropolitan Area's 1,600,000 people. By the year 1990 when this Area will have over 3 million people, approximately 80% of the Area's population will be served by this central collection and disposal facility. A major part of the rest of the Area will be served by local or sub-metropolitan systems.

The future effect of current policies will be that the water in the Mississippi River leaving the Twin Cities Metropolitan Area in the year 2000 will be in significantly better condition than it is today.

If I am correct in asserting that the Area is well on its way to solving the sewage treatment aspects of the water problem, what remains to be done? Basically, we feel that there is a need for a better set of ground rules within which the different users of water can compete for the use of this resource. Certainly there must be a way in which the water users and the various levels of government concerned can resolve their conflicts on the basis of equity rather than on the basis of "who gets there first."

As mentioned earlier, we in this Metropolitan Area look at waste disposal as but one aspect of the overall problem of water resource management. To illustrate, in the Metropolitan Area we have the very real problem of providing a safe supply of water for the 4 million people who will be here by the year 2000. We are also concerned with preserving the Area's beautiful lakes and rivers for such recreational uses as boating, fishing, and swimming. Moreover, the Area's rivers are important to our economy as transportation arteries. Obviously, these related uses interact and in many instances compete for the use of the Area's water resources. For example, using our rivers for the disposal of sewage affects recreation and water supply. The amount of water taken from the river for domestic and industrial use affects the amount of water that may be available downstream for the disposal of treated sewage effluent. On the other hand, the amount of water in the Mississippi River available for either consumption or sewage disposal is affected by policies governing the management of its headwater reservoirs. And these policies in turn must also be influenced by the recreation interests in those areas.

A major portion of the lower St. Croix River Valley is bound to be affected by the location and character of metropolitan growth. This not only concerns those who reside in the St. Croix Valley area, but it will also influence the tremendously important role that the St. Croix River plays as a major recreational resource for the people of the entire region.

This situation is not only functionally complex, it is also organizationally complex. Part I of the Metropolitan Planning Commission's water study revealed that at the time the study was made, that in addition to the many private interests there were over 124 organizations representing all levels of government that had a direct concern with or influence on the use of water in the Metropolitan Area.

These are a few examples that dramatize what we feel is a pressing need to develop a comprehensive set of policies at the local, metropolitan, state and federal levels to formally balance the competing interests of the various parties who use the Area's water.

The Twin Cities Metropolitan Planning Commission, in collaboration with the Area's governmental units, is mid-way in a three-year program to produce a comprehensive plan for the future development of this Area. Policies concerning the future location and character of metropolitan development which will be contained in this plan will provide the basic framework for balancing these water-use interests within the Metropolitan Area. However, the water resource problem cannot be dealt with effectively without more specific policies at the state and federal levels concerning the management of the Mississippi River headwater reservoirs and policies concerning the standards of quality that are to be maintained in the rivers flowing through and out of the Metropolitan Area. In this connection, the Metropolitan Planning Commission recognizes the Area's responsibility to its downstream neighbors to establish and maintain a higher quality of water in the Mississippi River. On the other hand, it must also be understood by all concerned that a Metropolitan Area of 4 million people, given the quantity of water available in the Mississippi River, cannot,under today's sewage treatment technology, use the river in such a way that its water is in the same condition when it leaves the Area as it was when it entered it. Also, we feel that more must be done to broaden participation in the development of state and federal policies affecting interstate use of waters. Presently these matters are primarily the concern of the Corps of Engineers and the

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environmental health divisions of the states of Minnesota and Wisconsin. A formal means must be found whereby other interests such as public and private recreation, industrial development, residential interests, local government and others can more directly participate in the development of policies and programs affecting the interstate use of waters.

In summary, the Twin Cities Metropolitan Area is aware of the pollution problem. At the direction of the legislature it is in the process of taking action. We think that there is a need for a working partnership of the different users of water and the local, state and federal interests involved to develop a truly comprehensive and effective solution to the water resource problem. In conclusion, it should be stated that we in the Metropolitan Area would like the opportunity to prove that we can carry out our responsibilities in this partnership before consideration is given to solving the problem on our behalf at a higher level.

Thank you.

* * *

(C O P Y) February 6, 1964

Minnesota Department of Health
Water Pollution Control Commission
University of Minnesota Campus
Minneapolis 14, Minnesota

Re: Cottage Grove & Woodbury Townships

Gentlemen:

We are submitting herewith a large scale map of the Towns of Cottage Grove and Woodbury. On this map are designated boundary lines, existing and proposed sanitary interceptor sewers and the sanitary sewer district limits as proposed by our firm and accepted by the Townships and the City of St. Paul.

The map clearly shows that the vast majority of area drains southerly towards the Mississippi River. There is an existing sewage treatment plant at the Mississippi River which is designed for 8,000 people.

Ultimately the combined Townships may have a population of approximately 325,000 people. It is estimated that 310,000 persons will connect to the contributory area that drains southerly to the Mississippi River.

The Townships of Cottage Grove and Woodbury request that consideration of the potential development be given by your investigating committee for continued use of the river by this area.

Very truly yours,

BONESTROO, ROSENE & ASSOCIATES, INC.

/s/ Otto G. Bonestroo

OGB: as

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SUMMARY OF CONFERENCE
(First Session)
POLLUTION OF INTERSTATE AND INTRASTATE WATERS OF THE UPPER MISSISSIPPI RIVER and its tributaries

(WISCONSIN-MINNESOTA)

February 7-8, 1964

The waters considered at this conference are the interstate and intrastate waters of the Mississippi River and its tributaries from the junction of the Mississippi River with the Rum River at Anoka, Minnesota, through the Minneapolis-St. Paul metropolitan area to the Lake Pepin outlet above Wabasha, Minnesota, one hundred and seven miles downstream.

On the basis of written requests to the Secretary of Health,Education, and Welfare from Karl F. Rolvaag, Governor of Minnesota, dated September 9, 1963, and from John W. Reynolds, Governor of Wisconsin, dated September 17, 1963, as well as on the basis of reports, surveys, or studies, the Secretary of Health, Education, and Welfare, on September 23, 1963, called a conference under the provisions of section 8 of the Federal Water Pollution Control Act (33 U.S.C. 466 et seq.) in the matter of pollution of the Mississippi River and its tributaries (Minnesota-Wisconsin). The conference was held on February 7 and 8, 1964, in the Veterans Service Building, State Capitol Plaza, St. Paul, Minnesota.

The following conferees, representing the State water pollution control agencies of Minnesota and Wisconsin, and the U.S. Department of Health, Education, and Welfare participated in the conference:

Dr. M. M. Hargraves	Chairman, Water Pollution Control Commission State of Minnesota

Lyle H. Smith	Executive Engineer Water Pollution Control Commission State of Minnesota
Chester S. Wilson	Special Assistant Attorney General Counsel for the Water Pollution Control Commission State of Minnesota
O. J. Muegge	Chairman, Committee on Water Pollution and State Sanitary Engineer State of Wisconsin
Theodore Wisniewski	Director, Committee on Water Pollution State of Wisconsin
James H. McDermott	Assistant Attorney General & Counsel Committee on Water Pollution State of Wisconsin
H.W. Poston	Regional Program Director, Region V Division of Water Supply and Pollution Control Department of Health, Education, and Welfare Chicago, Illinois
Murray Stein, Chairman	Department of Health, Education and Welfare Washington, D.C.

Also participating in the conference were the following:

Hon. John W. Reynolds	Governor of the State of Wisconsin
Hon. Karl F. Rolvaag	Governor of the State of Minnesota
Hon. Lester Johnson	Member of Congress from the State of Wisconsin
John J. Abramson	Civil Engineer,Chicago Regional Office Federal Power Commission
Arlin Albrecht	Upper Mississippi Pollution Control Committee Red Wing, Minnesota
Eugene V. Avery	Chief Engineer Department of Public Works City of St. Paul, Minnesota
John P. Badalich	City Engineer City of South St. Paul, Minnesota

Warren Bjorklund	Vice President Clear Air Clear Water Unlimited Newport, Minnesota
A.W. Buzicky	Director Metropolitan Mosquito Control District St. Paul, Minnesota
S. Castagna	Engineer Wisconsin Committee on Water Pollution
Harold F. Clark	Bacteriologist in Charge Water Quality Studies Division of Water Supply and Pollution Control Robert A.Taft Sanitary Engineering Center Cincinnati, Ohio
Herbert A. Flueck	State Conservationist Soil Conservation Service U.S. Department of Agriculture St. Paul, Minnesota
Clifford W Hamblin	General Manager St. Paul Water Department St. Paul, Minnesota
Martin Hanson	President Wisconsin Council of Resource Development and Conservation
Lt. Col. L. [illegible].Harding	District Engineer U.S. Army, Corps of Engineers
Demetrius G.Jelatis	Mayor Red Wing, Minnesota
Clarence A Johannes	Public Health Engineer Minnesota Department of Health
Dean K. Johnson	Executive Secretary Upper Mississippi Waterway Association
Harold C.Jordahl, Jr.	Regional Coordinator U.S. Department of the Interior States of Michigan, Wisconsin, Minnesota, Iowa, and Illinois
Howard Krauss	Member Advisory Committee to the Wisconsin Department of Resource Development

Kerwin L. Mick	Chief Engineer & Superintendent Minneapolis-St.Paul Sanitary District
Robert H. Paddock	Division Engineer for Wisconsin Bureau of Public Roads U.S. Department of Commerce
Lt.Cmdr.John C. Parker	Officer in Charge, Marine Inspection U.S. Coast Guard Dubuque, Iowa
Mrs. Edith Peller	Excelsior, Minnesota
J.L. Porterfield	American Crystal Sugar Company Denver, Colorado
J. M. Rademacher	Senior Sanitary Engineer, Region V Division of Water Supply and Pollution Control Department of Health, Education, and Welfare Chicago, Illinois
William Ruth	President Wisconsin Federation of Conservation Clubs
George Serbesku	Spring Lake, Minnesota
S.C. Sorensen	Commercial Fisherman Bay City, Wisconsin
Lloyd V. Spriggle	Member of the Upper Mississippi Pollution Control Committee Bay City, Wisconsin
Tom Tautges	Vice Chairman Board of Trustees, North Suburban Sanitary Sewer District
Donald J. Thimsen	Section on Water Pollution Minnesota Department of Health
John F. Tischler	Chairman Minnesota Water Pollution Control Advisory Committee
Kenneth W. Westerberg	Secretary Lower Minnesota River Watershed District Savage, Minnesota

Harry Wilson	Division Hydrologist Midcontinent Area U.S. Geological Survey St. Louis, Missouri

The Chairman of the conference pointed out that:

1. Under the Federal Water Pollution Control Act (33 U.S.C. 466 et seq.), pollution of interstate waters which endangers the health or welfare of persons in a state other than that in which the discharges originate, and pollution of navigable waters which endangers the health or welfare of any persons in a State other than that in which the discharges originate, and pollution of navigable waters which endangers the health or welfare of any persons, are subject to abatement under procedures described in section 8 of the Federal Act.

2. The first step of these procedures is the calling of a conference.

3. The purpose of the conference is to bring representatives of the State agencies and the U.S. Department of Health, Education, and Welfare together to review the existing situation and progress made, to lay a basis for future action by all parties concerned, and to give the States, localities, and industries an opportunity to take any remedial action under State and local law which may be indicated.

In light of conference discussions, the conferees unanimously agreed to the following conclusions and recommendations:

1. Pollution in these waters from industries, municipalities and storm overflow sources has created a health hazard to persons engaging in water contact activities, causes visual nuisances, interferes with fish and fishing, causes sludge banks which give off noxious odors, and floating

sludge, and interferes with bottom aquatic life, and with feeding and spawning grounds for fish propagation. This pollution must be abated.

2. The Wisconsin and Minnesota water pollution control agencies have active water pollution control programs. The delays, if any, are those which may be expected to occur in the execution of the pollution abatement program of a large metropolitan area.

3. The Department of Health, Education, and Welfare in conjunction with both State agencies and in keeping with State staff and fund limitations, is to conduct an intensive survey of the Mississippi River. Participation is to be on a cooperative basis by all agencies, both on the technical level and in advisory and policy direction capacities. This study project is to include but not be limited to investigation of municipal, industrial, and Federal installation wastes, thermal sources of pollution, agricultural sources of pollution, bulk storage areas, pipelines, barges, coliform bacteria, BOD, suspended solids, sludge deposits, oil, algae, tastes and odors, pesticides, and with the cooperation of the Corps of Engineers, low flow augmentation. The study can be modified or expanded at the request of the technical committee.

4. At the suggestion of the Wisconsin conferee, the conferees agreed that the study area be extended to include St.Croix Falls, Wisconsin, and Taylors Falls, Minnesota.

5. The study and report is to be planned and carried out so that features relating to Twin City metropolitan area sewage disposal will be completed, if at all possible, in time to report the findings and recommendations by January 1965, the opening of the 1965 Minnesota State legislature.

6. This study is not a substitute for, but a supplement to, already existing State programs for pollution control and abatement.

7. At the completion of the study and the report of its findings, the conference will be reconvened at the call of the Chairman of the conference to determine necessary action.

GPO 920-459